

# **IQ-400 - Series Intelligent Access Control Systems**

Installation Manual

33-10057-001

REV: A

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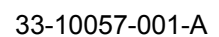
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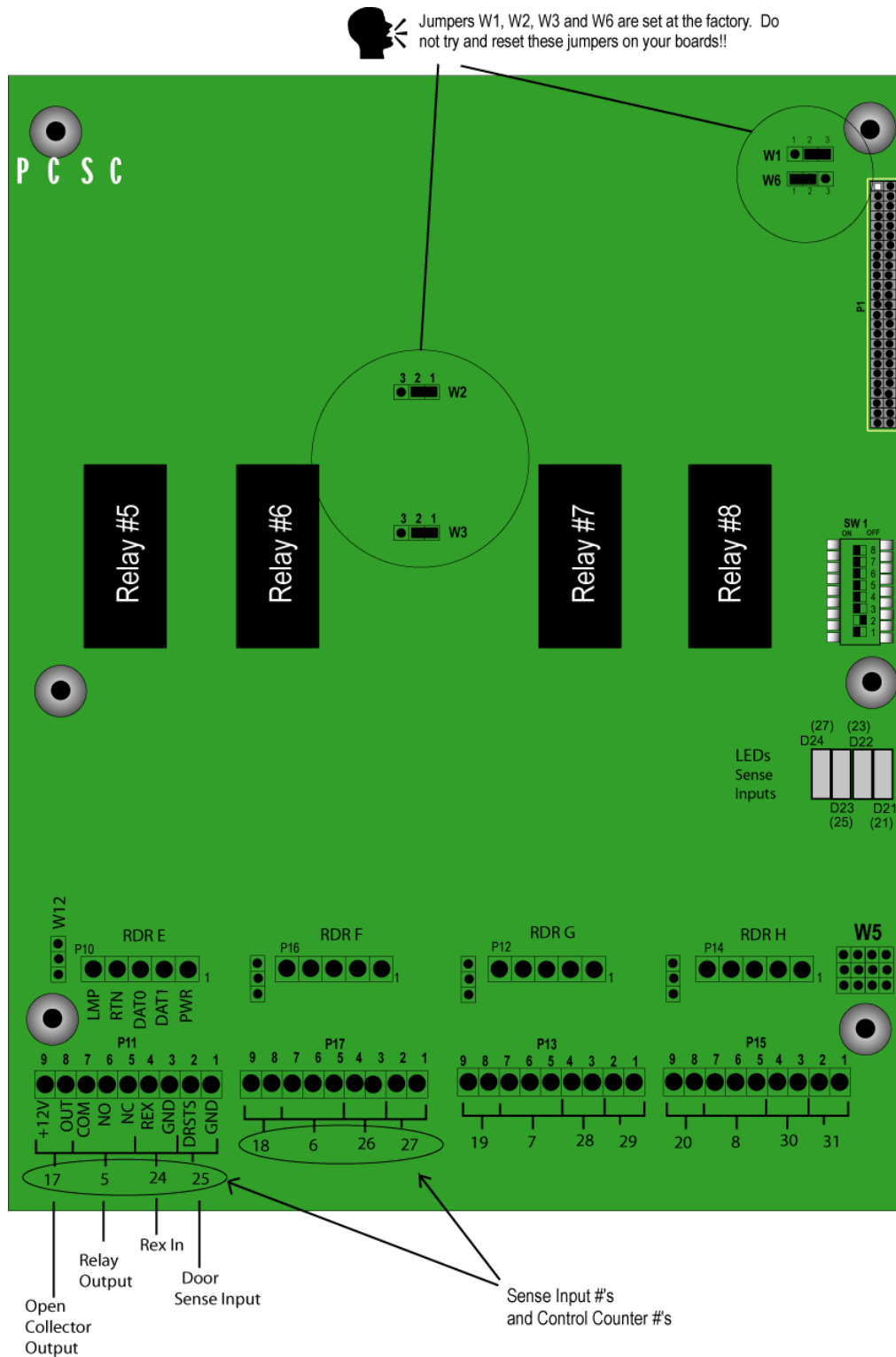
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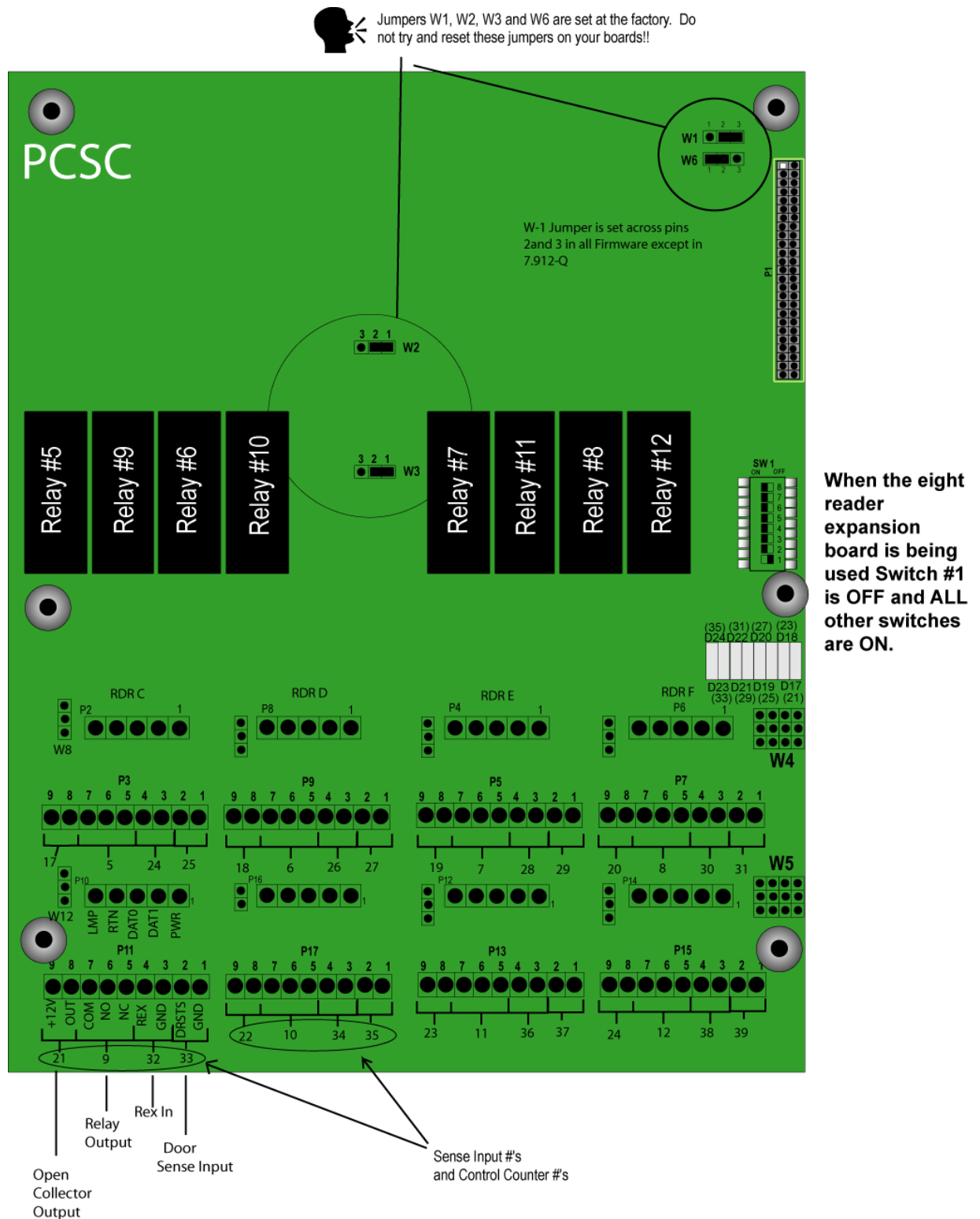


## 0.1.2 Four-Door Expansion Board

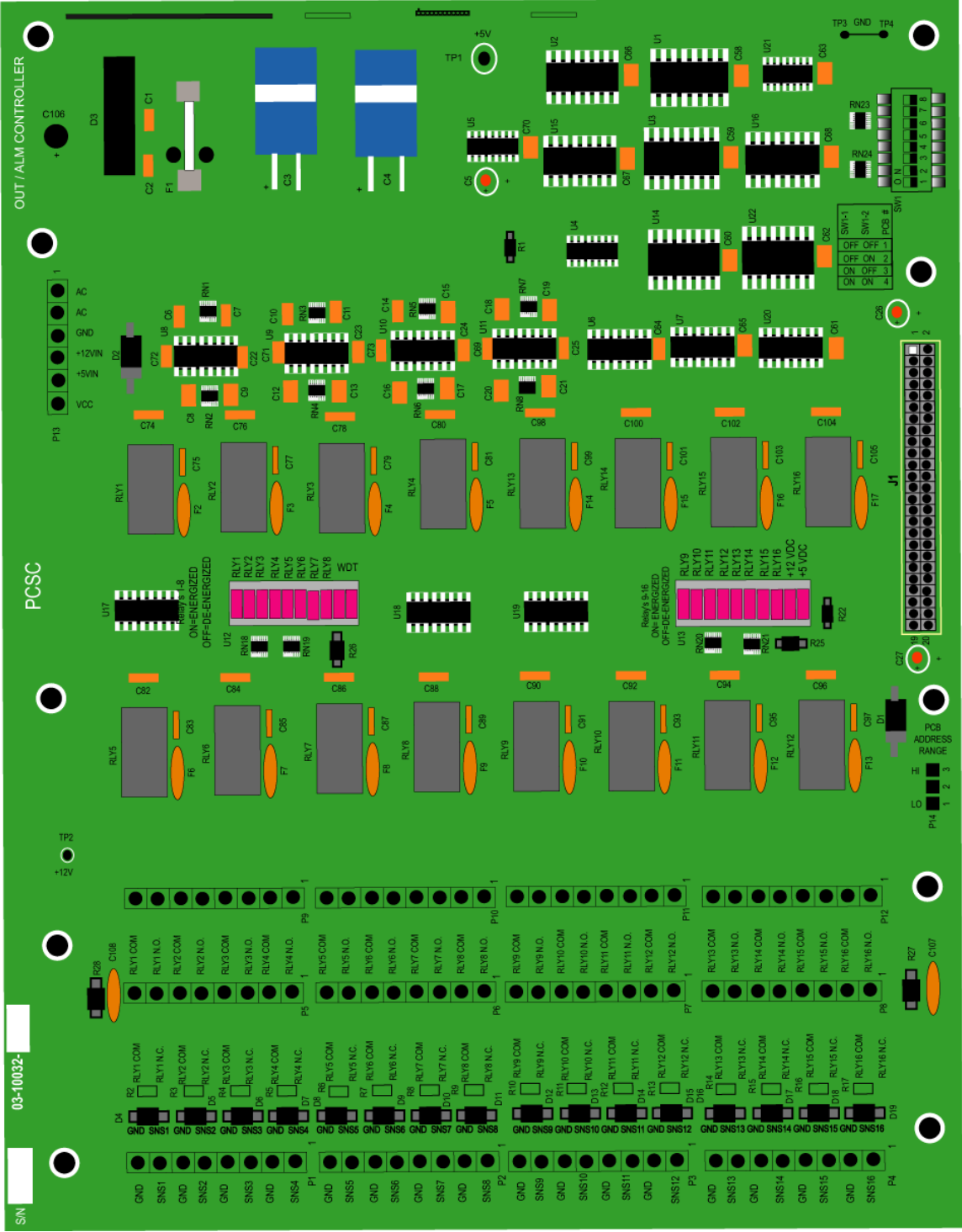


When the four reader expansion board is being used, SW1 switch #2 is **OFF** and **ALL** other switches are **ON**

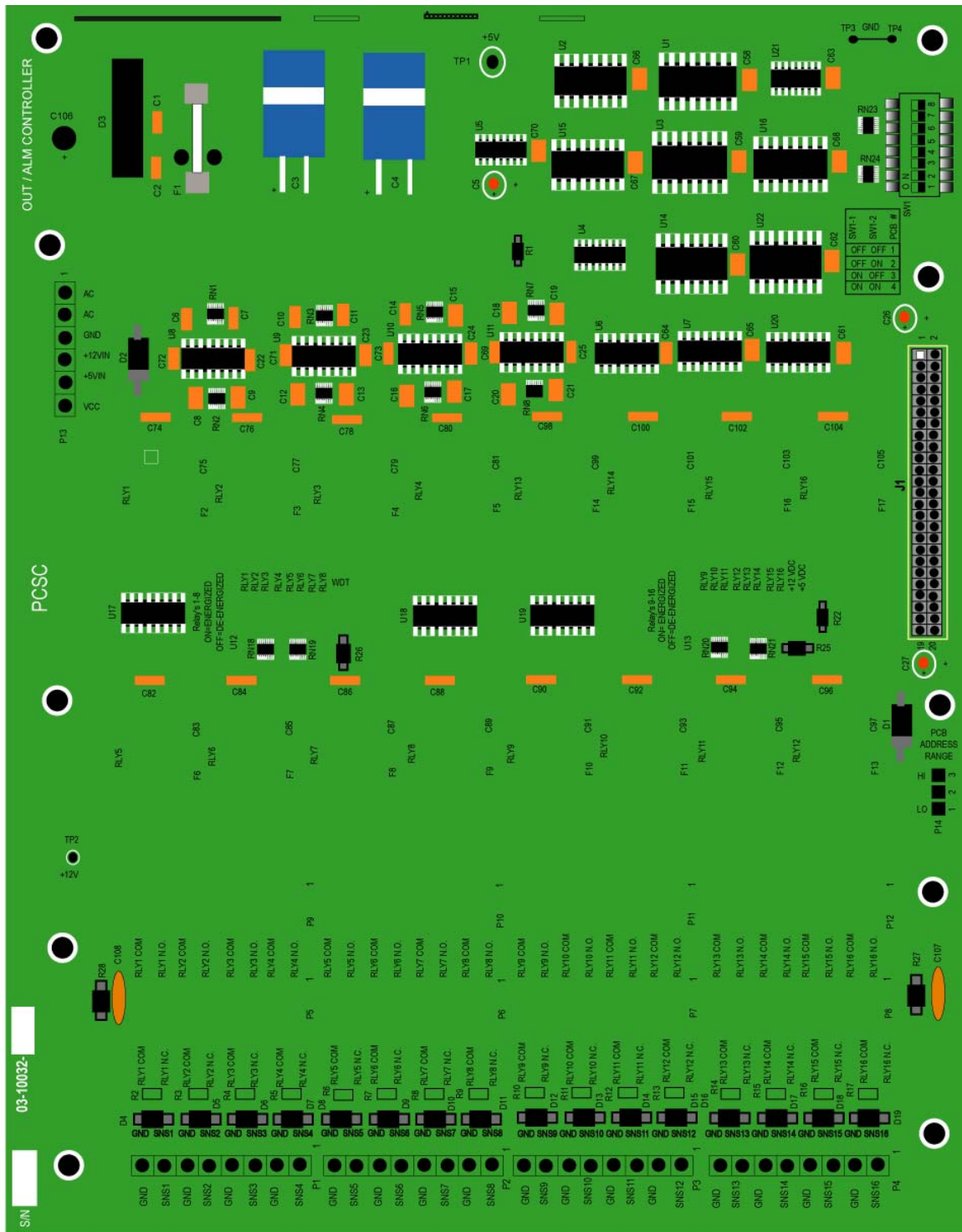
### 0.1.3 Eight-Door Expansion Board



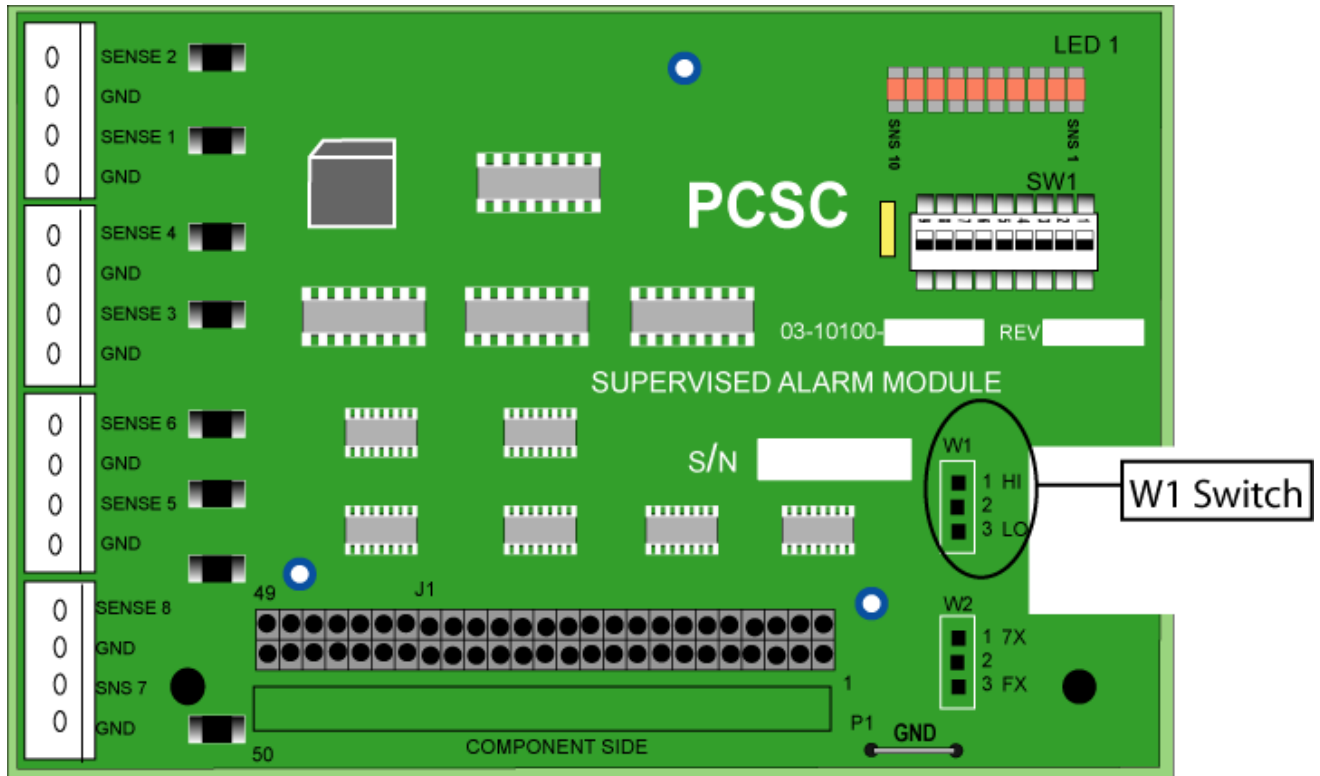
0.1.4 OUT Expansion Board



## 0.1.5 ALM Expansion Board



## 0.1.6 SAM Board





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## 1.0 Introduction

Welcome to the IQ-400, the newest generation of intelligent access control system from PCSC, which expands on the existing qualities of the IQ-400 with the expanded ability to make four reader connections per panel.

This manual explains IQ-400 installation and connection to a personal computer (PC) and an optional local printer. The IQ-400 Manual is divided up into six steps:

Step 1 - Unpacking the IQ-400

Step 2 - Installing Power

Step 3 - Wiring Your Readers

Step 4 - Reader Connections

Step 5 - Wiring Your Door(s)

Step 6 - Communicating with the IQ-400

Step 7 - Status Lights and Dealing with Communication Errors

Before turning on the IQ-400 or the PC, take a moment to read through this manual. It has been designed to allow you to move through the installation process. Specifics about the IQ-400 and its component systems can be found in:

Appendix: A - IQ-400 Specifications

Appendix B - Configuring the IQ-400 LAN for Version 0130 and above

**NOTE** The IQ-400 system is set up at the factory. Do NOT re-initialize the system unless other modules have been added.

The LiNC-NET Network Controller communicates on a multi-point RS485 communication cable (RS-232 and MODEM communication are also available). You must address each IQ-400 with a unique ID number (1-111) in order to communicate to each IQ-400 panel. Numbering the IQ-400s should be in ascending order, but it is not required for operation.

**NOTE** Installation must meet all local, state, and federal regulations and codes for electrical installation. If these codes conflict with the installation methods described in this manual, please call your service representative.

### UL LISTINGS

The IQ-400 control unit is UL listed to the standard for Access Control System Units, UL 294. The following card readers have been found compatible by UL with the IQ-400: PCSC Models BR-370 and BR-470; HID Models PR-234 and PRK-234; and AWID PR-732, 733.

## 2.0 Unpacking the IQ-400

### 2.1 Unpacking the IQ-400

As you unpack the IQ-400, inspect it for missing items or damage. Contact the dealer for any irregularities. Keep ALL packing material for protection in return shipping.

### 2.2 Visual Inspection

**1. *Are all of the socketed integrated circuit chips seated in their sockets?***

Socket ICs U105 and U108 are located in the center of the board in close vicinity to LEDs D50 and D49.

**2. *Are the door relays seated and latched into their sockets?***

The Door Relays K1, K2, K3 and K4 are locked at the bottom center of the board.

**3. *Is the watch battery seated in its socket?***

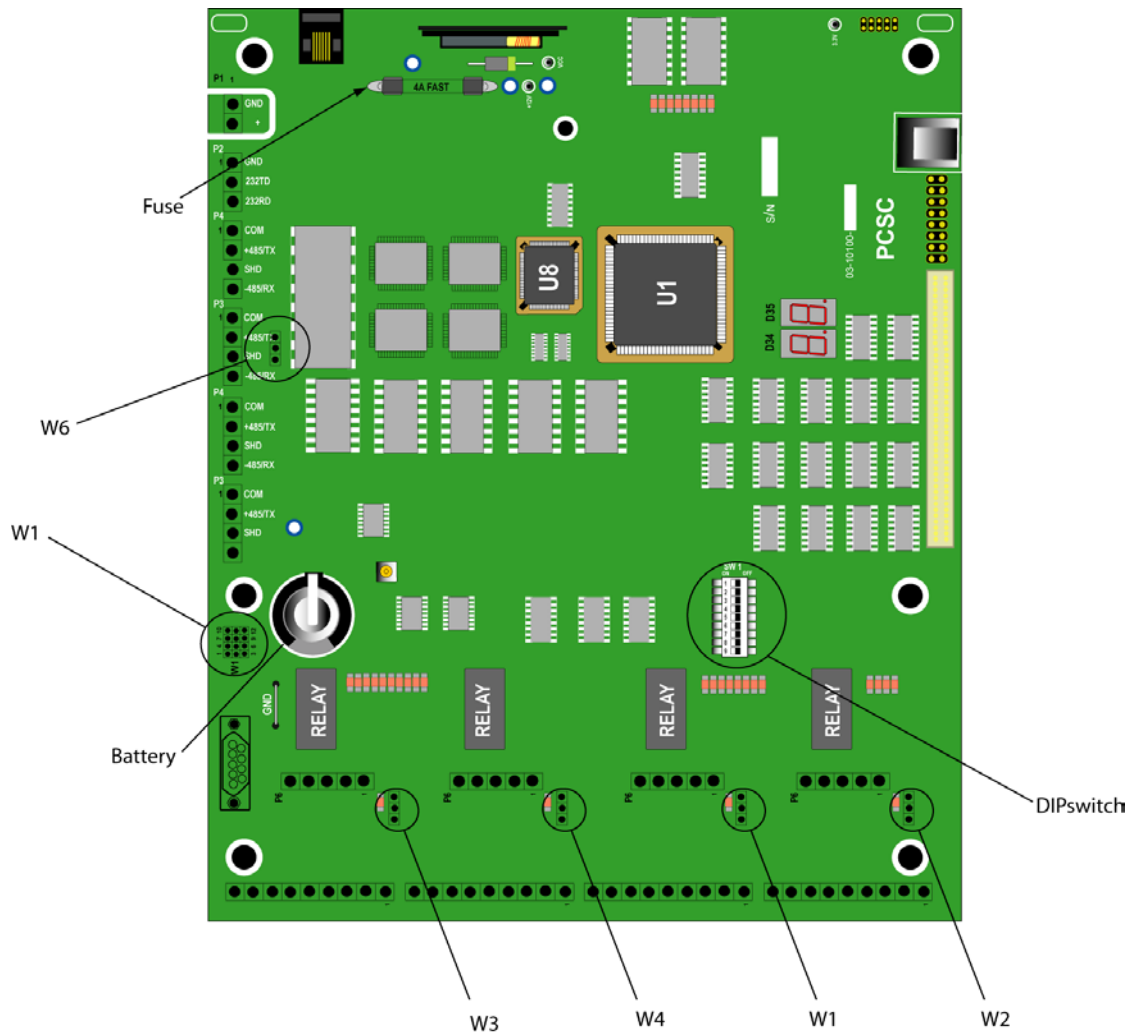
The watch battery is located in socket BT1 located in the lower left side of the board near to the DB9 Connector P7.

**4. *Are all of the plug-on connectors affixed to their male header connectors?***

Plugs on connectors are located along the left-hand edge of the board at plug P1-P2-P3-P4-P5-P6. Plugs on connectors are located along the bottom portion of the board at plug P8-P9-P10-P11-P12-13-P14-P15. Plugs on connectors are located along the lower right-hand edge of the board at plug P16-P17-P18-P19.

**5. *Is the fuse in place at socket F1 located in the upper left corner of the board?***

A 4-Amp fast blow (3AG) fuse is required.



***Are the jumpers in place at W1, W2, W3, W4, and W8?***

- Jumper W8 is located in the LOWER RIGHT side of the board and is set for 12 volt-4-wire, 12 volt-5-wire, or 5-volt-5-wire readers.
  - Across Pins #1 and #2 = 5 Volt Card Reader
  - Across Pins #2 and #3 = 12 Volt Card Reader
  - Across Pins #4 and #5, #7 and #8, #10 and #11 = 5-wire Wiegand Data (Data0, Data1) Format
  - Across Pins #5 and #6, #8 and #9, #11 and #12 = 4-wire PCSC Data Format

- Jumper W2 is located in the LOWER RIGHT side of the board, to the left of Plug P16 and is set for 4 or 5 wire readers. (Must be set consistently with Data format set on W1, W3 and W4).
  - Across Pins #1 and #2 = 5-wire Wiegand Data (Data0, Data1) format
  - Across Pins #2 and #3 = 4-wire PCSC Data format
  
- Jumper W1 is located in the LOWER RIGHT (CENTER) side of the board, to the left of W2 and is set for 4 or 5 wire readers. (Must be set consistently with Data format set on W2, W3 and W4).
  - Across Pins #1 and #2 = 5-wire Wiegand Data (Data0, Data1) format
  - Across Pins #2 and #3 = 4-wire PCSC Data format
  
- Jumper W4 is located in the LOWER LEFT (CENTER)side of the board, to the left of W1 and is set for 4 or 5 wire readers.
 

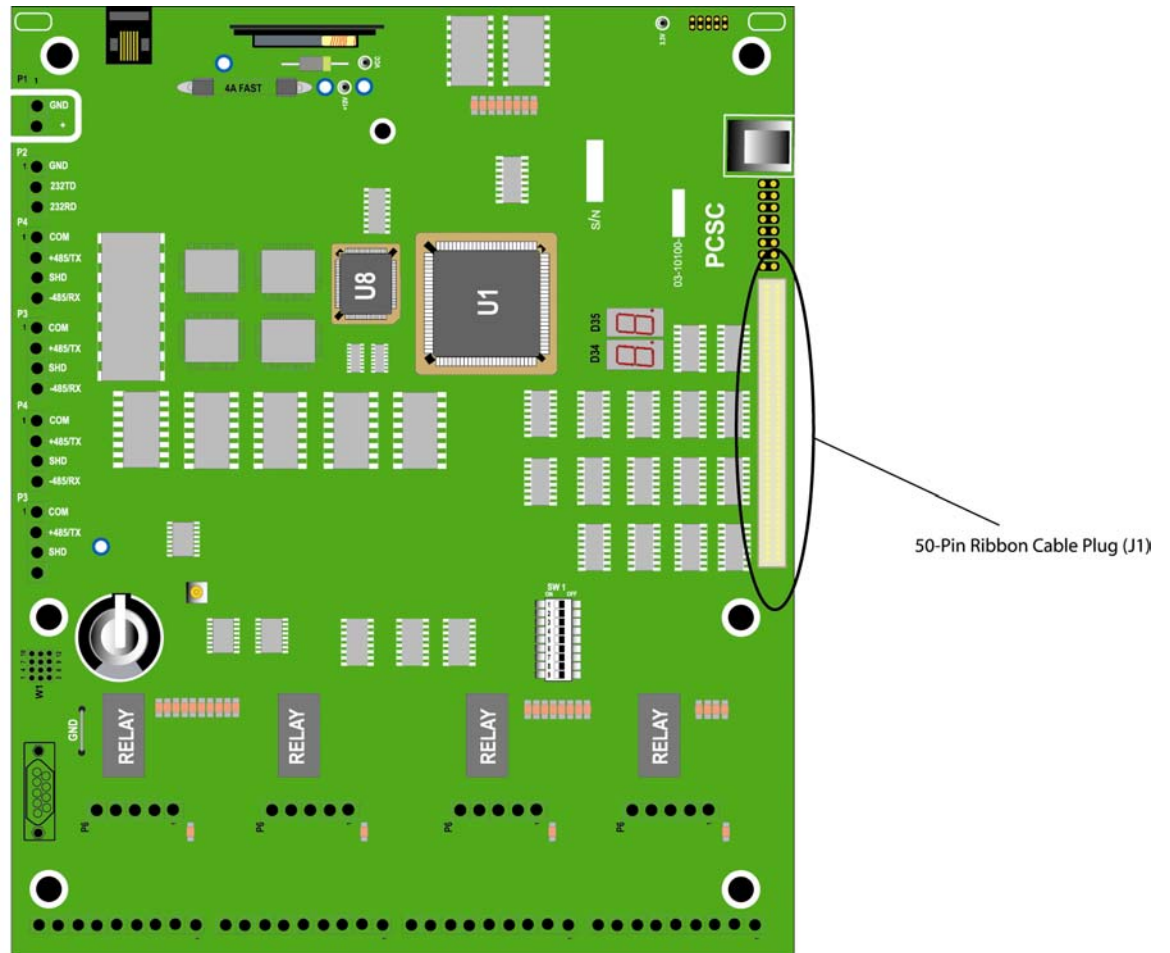
**NOTE:** It must be set consistently with data format set on W1, W2 and W3.

  - Across Pins #1 and #2 = 5-wire Wiegand Data (Data0, Data1) format
  - Across Pins #2 and #3 = 4-wire PCSC Data format
  
- Jumper W3 is located in the LOWER LEFT side of the board to the left of W4 and is set for 4 or 5 wire readers.
 

**NOTE:** It must be set consistently with data format set on W1, W2 and W4.

  - Across Pins #1 and #2 = 5-wire Wiegand Data (Data0, Data1) format
  - Across Pins #2 and #3 = 4-wire PCSC Data format





IQ-400 - Expansion Cable Plug

- Is the 50-pin Expansion Bus Ribbon Cable connected to the IQ-200 at Plug J1?***

The RED stripe on the edge of the ribbon cable should be connected to pin #1 of Plug J1.
- Is the opposite end of the 50-pin Expansion Buss Ribbon Cable connected to a Peripheral Expansion Board at Plug P1?***

The possible expansion boards are the new 4-door expansion PCB, 8-door PCB, OUT PCB, ALM PCB, SAM PCBs.

## 3.0 Installing Power

### 3.1 Installing Power

Shown below are the 3.0A and 6.0A PCSC power supplies. Both power supplies are shown in enclosures connected to an IQ-400 manual in a PCSC small enclosure.

#### 3.1.1 Installing Power- 3.0 Amp

See **Figure 1** in **Section 3.1.3**.

12VDC power is connected to the circuit board at P1 in the upper left corner. Disconnect power mains from the supply until the wiring is secured.

#### 3.1.2 Installing Power- 6.0 Amp

See **Figure 2** in **Section 3.1.4**.

12VDC power is connected to the circuit board at P1 in the upper left corner. Disconnect power mains from the supply until the wiring is secured.

**NOTE:** Power supply cable connections are non power-limited outputs. For more information, please refer to the power supply installation manual.

[illegible]

The diagram illustrates the internal wiring of the small enclosure. The enclosure is 11.5" high and 18" wide. The main circuit board (PCB) is green and features a microcontroller (U104), a relay (U108), and several other components. The PCB is connected to a 6.0 Amp Power Supply (PSC) and a 12V battery. The battery is labeled "Battery- 12V sealed or wet lead acid battery with a minimum 4Ah capacity". The power supply is connected to the battery and the PCB. The PCB is also connected to a 110V AC source. The diagram shows the following components and connections:

- 6.0 Amp Power Supply (PSC):** A blue and white power supply unit with a 24VDC output.
- Battery:** A 12V sealed or wet lead acid battery with a minimum 4Ah capacity.
- 110V AC:** A power source connected to the battery and the power supply.
- PCB:** A green circuit board with a microcontroller (U104), a relay (U108), and other components.
- Wiring:** Colored wires (red, yellow, green, blue) connect the power supply, battery, and PCB.

### 3.1.5 Resetting the IQ-400 to Default Values

**In the event that the 3-volt watch battery is removed or loses its electrical charge, the IQ-400 must be reset. Follow the procedures below to restore the controller to the default values.**

1. With power on, move all switches at dipswitch SW1 to the right, OFF (as printed on the circuit board).
2. Press the Reset button at S1.
3. The 10 LEDs (D39 – D48) will flash in waterfall effect and then stop. The 7-segment LEDs (D49 and D50) will show **8.8.** while the reset process is underway. When the reset process is complete, all 10 LEDs (D39 – D48) will turn OFF, and the seven segment LEDs will show a single line segment flashing in a circular pattern clockwise.
4. Refer to Section 7.3 [*Addressing Individual IQ-400s through the Dipswitch*] and begin addressing the IQ-400 by DIP switching the panel number (1-111).
5. Set the communication protocol by following the instructions on section 7.4 [*Setting MODEM or Direct Connect Configurations*].
6. The system is now set to the default values. Refer to Quick Setup Steps for page references.

## 4.0 Wiring Your Readers

### 4.1 Grounding Your Readers

PCSC has designed its products to withstand most inductive voltage spikes without effect. However, some noise found in power supplies and door strikes, in addition to static discharge, may cause the control unit to momentarily shut down, lockup, or in extreme cases, to become damaged. Unexplained lockups and intermittent system behavior are common symptoms of static or noise problems. If cycling power will remedy your problem, carefully follow these instructions:

1. Install MOVs (Metal Oxide Varistors, Siemens S10K30 or the equivalent) or reversed biased diodes (1N4004 - 1N4007) at each Door Strike. When installed, they will suppress most problem Door Strikes.
2. Readers should be properly earth-grounded for uninterrupted reads. Please be aware that operation is affected by the amount of static present during certain times of the year.
3. Properly grounding all readers and hardware, in addition to suppressing noise in the peripheral equipment, should allow for many problem free years of use with PCSC products.
4. In addition, PCSC recommends using a separate filtered, electronically regulated output, switchable power supply for door strikes.
5. Before installing the reader, please read the following instructions. *Damage may occur if this is disregarded.*
6. Installation must meet all local, state, and federal regulations and codes for electrical installation. If these codes conflict with the installation methods described in this manual, please call your service representative.

### 4.2 Properly Routing Your Cables

Do not route data and power cables in the same conduit. Crosstalk and transmission of electrical noise may result. The IQ-400 PCB's will become damaged if the power cable grounds to the data cable.

## 4.3 Grounding the Power and Data Lines

Each cable has a set of drain lines that can be attached on the Host or controller end of the cable to any screws mounted in the optional enclosures. If other non-metallic enclosures are used for controller housing, ensure that an alternative source for earth grounding is available.

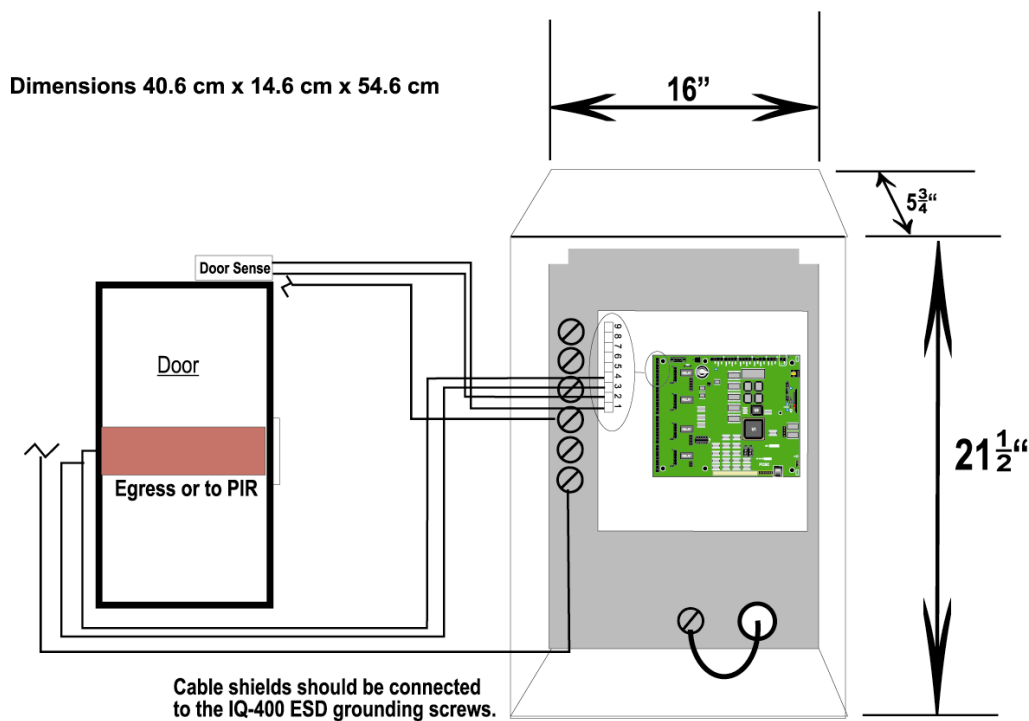
### 4.3.1 Procedure

1. At the Reader side, it is important to be aware of both the static generated from the user end as well as electrical grounding from the data and power cabling. If at all possible, the reader mounting plate should be attached to a grounded junction box or to another source, if the junction box is non-metallic. This alleviates the possible damage caused by static electricity.

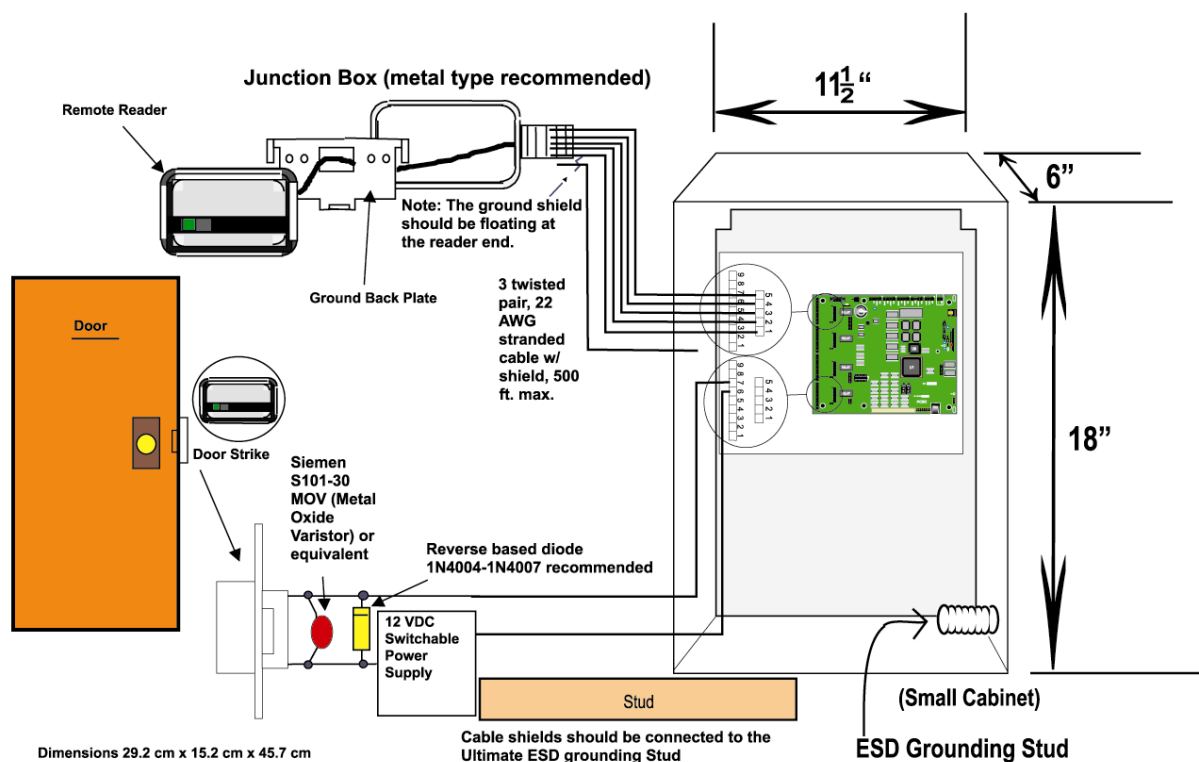
**NOTE** Leave the drain line taped back and floating at the reader site.

2. If grounding locally is not possible, connect drain wires to provided ESD (Electro Static Discharge) hardware at the Controller side (enclosure) or to earth grounded conduit. As each reader port is progressively farther away from the ESD hardware location (left rear side of the cabinet for IQ-400s), allow for enough drain line to reach the ESD hardware on the controller end of the cable. Allow enough strain relief to avoid touching other circuitry or creating excessive tension.

## Grounding the Cables- IQ-400 to Door Sense and Egress/PIR



## Grounding the Cables- IQ-400 to Door Strike and Reader



NOTE: The Small Enclosure that is described with Dimensions of 18"H x 6"D x 11"W has been previously Evaluated and Listed for use with UL 1076 and UL 294 Systems.

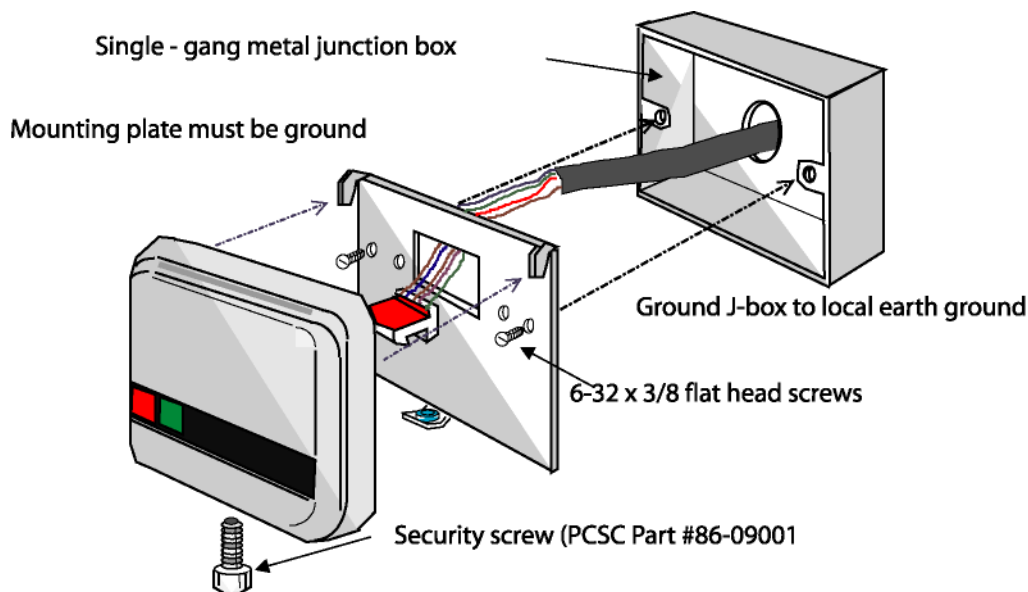


## 4.4 Grounding the Pin Pad or Reader

The card-reader is comprised of a housing and a mounting plate. The mounting plate is typically attached to a single-gang, 2 x 4 inch earth-grounded junction box (preferably metal-type). The reader may be installed either vertically or horizontally, depending on the installation requirements.

### 4.4.1 Procedure

1. Orient the mounting plate so that the protruding ears are on top and facing the back of the reader or PIN Pad. Attach the mounting plate to the junction box using two #6-32 x 3/8" flat head screws. The mounting plate should be earth ground either to a ground junction box or directly to an earth ground source (especially if the junction box is not metal).
2. Connect the cable to the rear of the reader at J1. Secure the shield drain lines to one of the grounding screws in the IQ-400 enclosure.
3. Place mounting holes on the back of the reader over the latches on the mounting plate, and then position the unit so that the cover is flush with the mounting plate.
4. Secure the unit to the mounting plate by inserting the special security fastener through the hole in the bottom of the reader. Tighten it using the security driver.



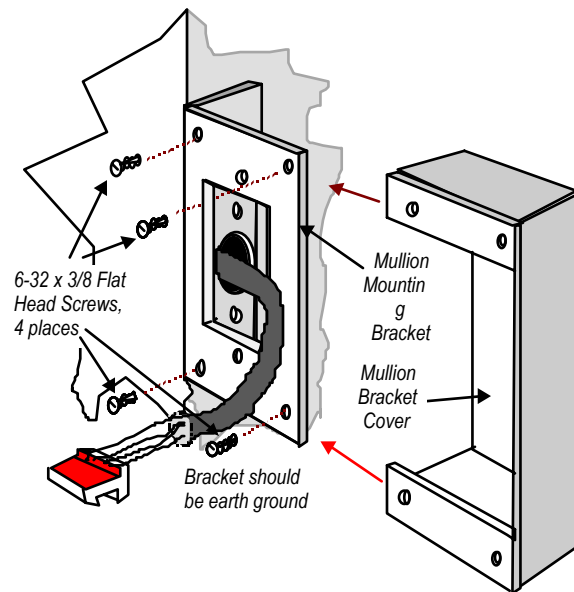
**Connecting the Reader Drain Lines to J - Box Earth Ground**

#### 4.4.2 Grounding the Reader Mullion Mount

The reader may be attached to a glass or door mullion separator (either vertically or horizontally) by using the Mullion Bracket Adapter Kits (04-10170-001 for horizontal mounting, or 04-10171-001 for vertical mounting).

##### 4.4.2.1 Procedure

1. At the IQ-400 end, secure the drain lines to one of the ESD grounding screws in the IQ-400 box. At the reader end, leave the drain line floating. It is recommended that the mullion adapter be affixed to an earth grounded or to the incoming conduit.
2. Mount the reader to the J-box or mullion bracket.



**Reader Mullion Mount Installation and Grounding**

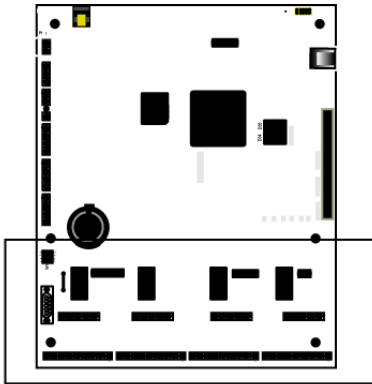
## 5.0 Reader Connections

### 5.0.1. Reader Disconnect Resistors

If an external power supply and a reader disconnect feature is required, place a 470 Ohm – 1 Watt resistor (not supplied) at the reader.

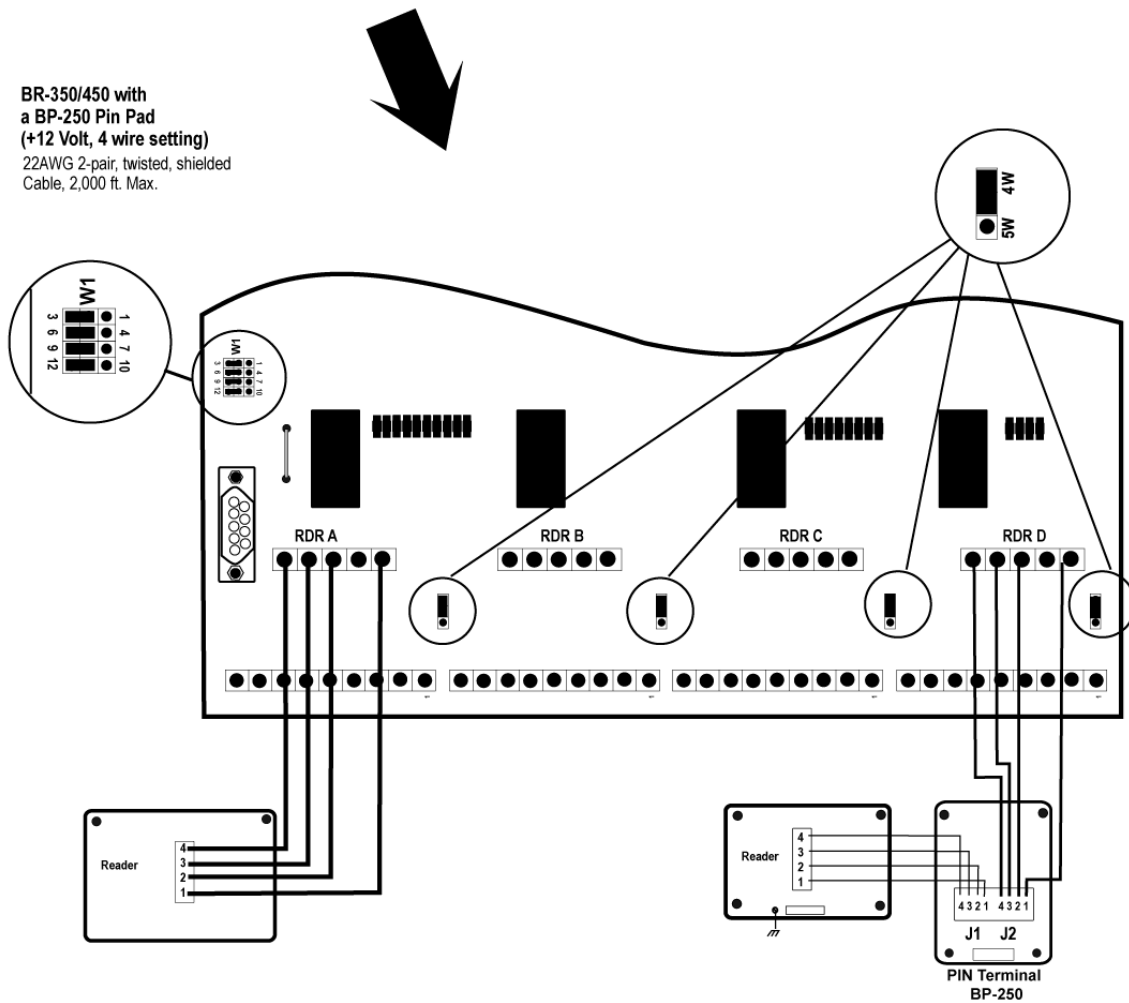
**Note:** For use in the following diagrams, resistors are shown connected to the boards. However, for best operation, resistors should be placed at the reader.

## 5.1 Reader Connections: BR-350 Readers: IQ-400 Board

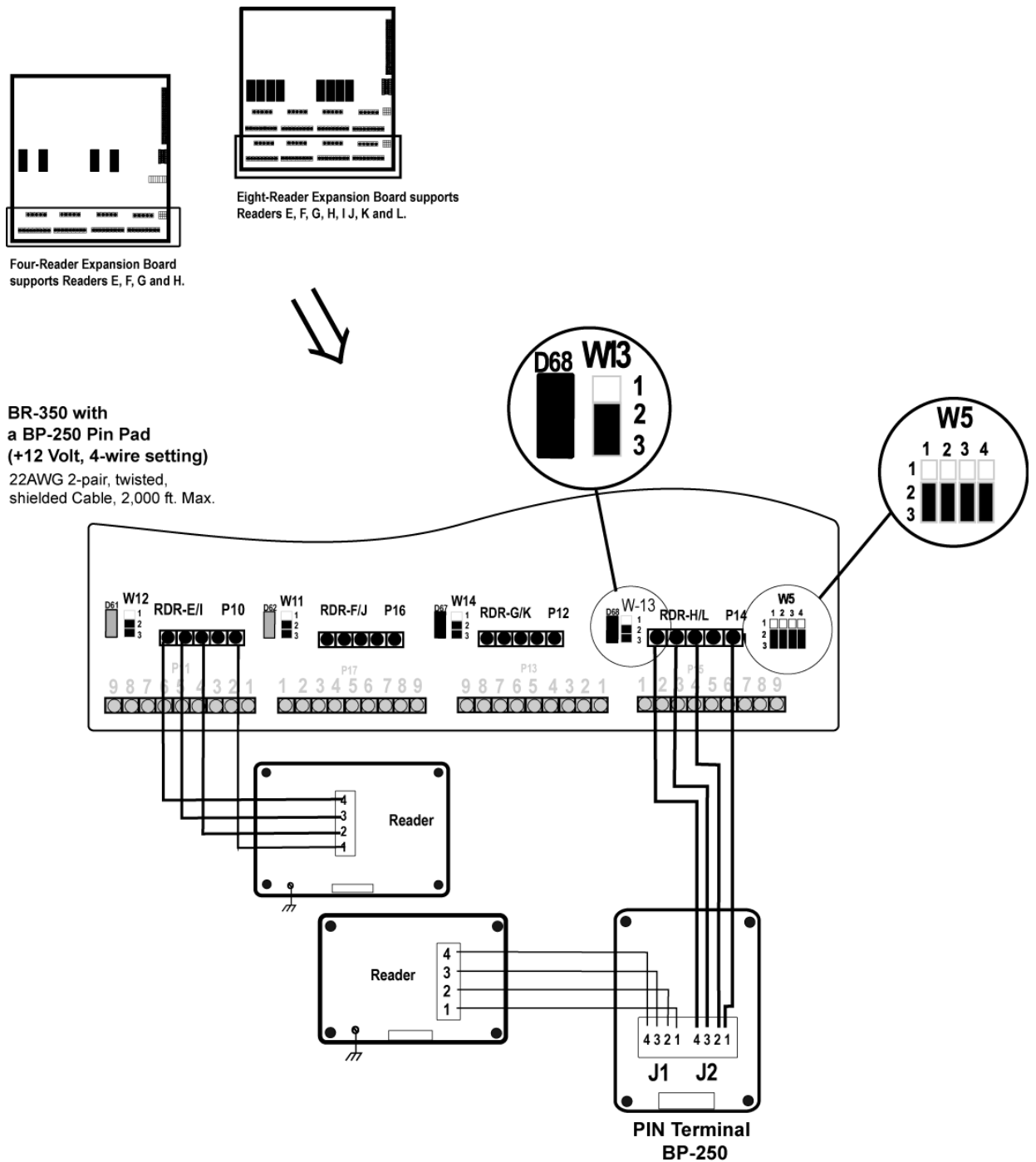


The IQ-400 supports Readers A, B, C and D.

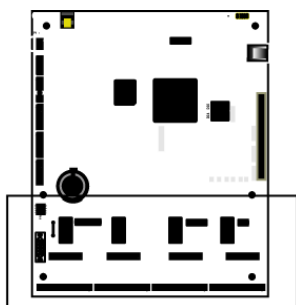
BR-350/450 with  
a BP-250 Pin Pad  
(+12 Volt, 4 wire setting)  
22AWG 2-pair, twisted, shielded  
Cable, 2,000 ft. Max.



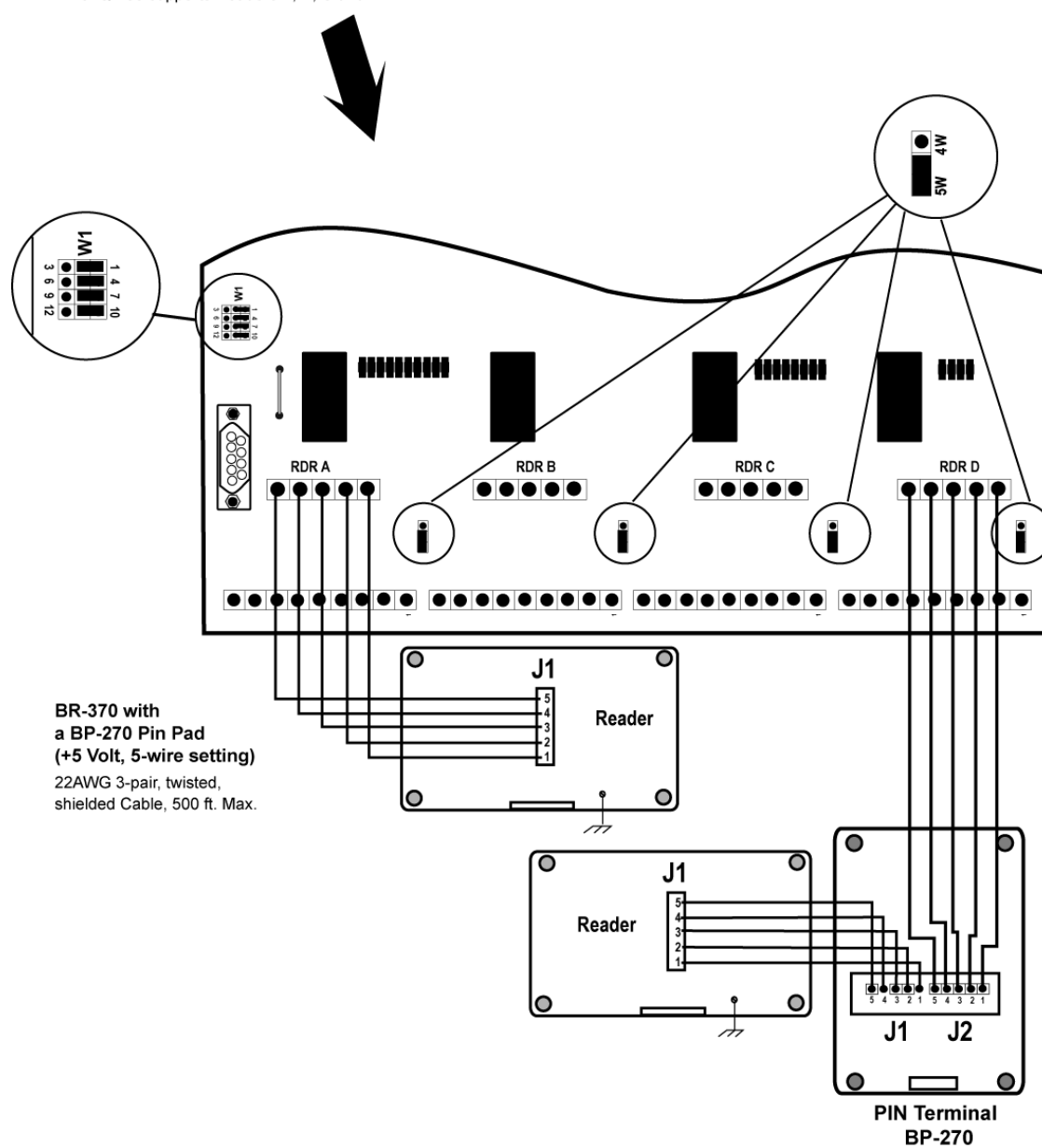
## 5.2 Reader Connections: BR-350 Readers: Expansion Board



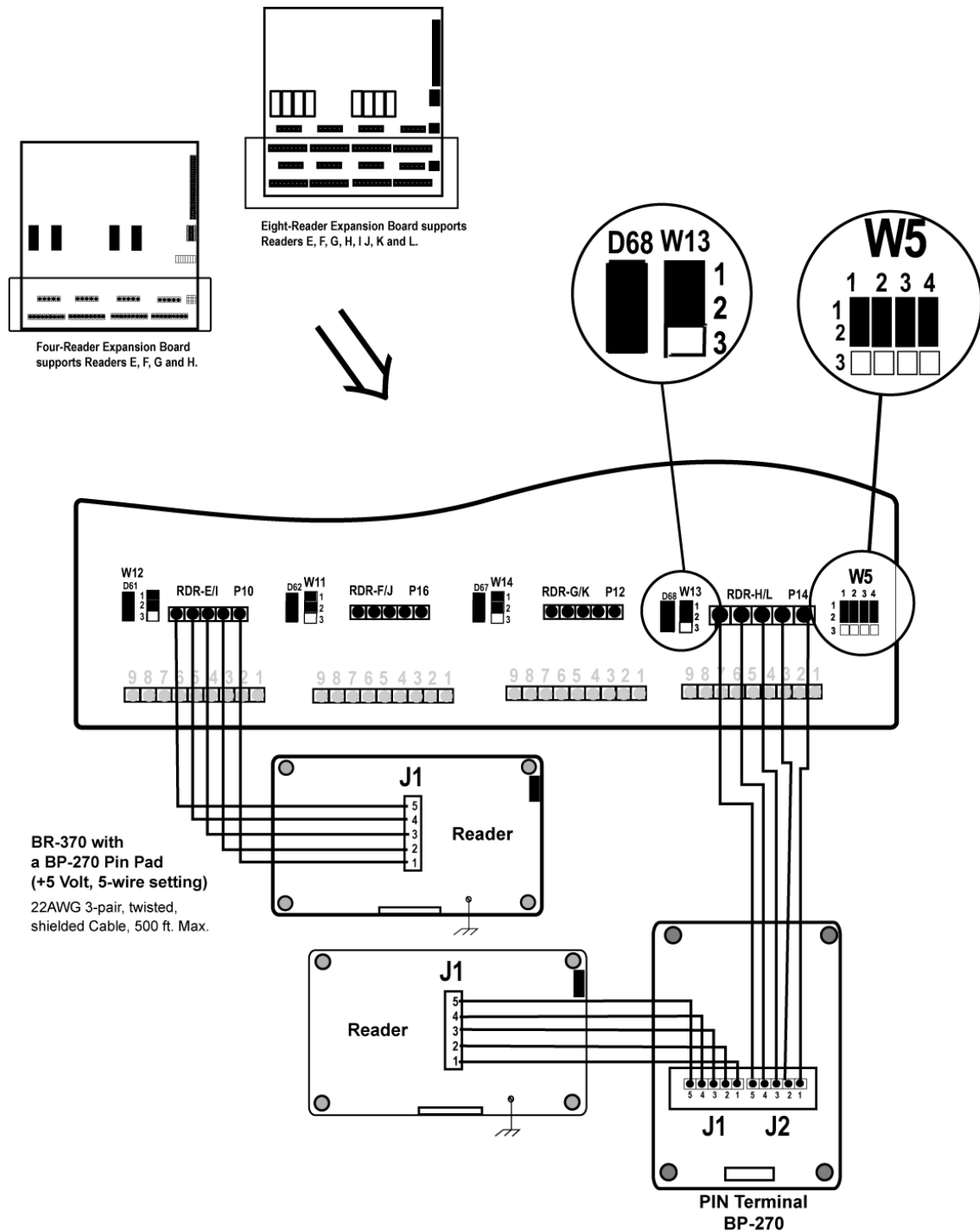
### 5.3 Reader Connections: BR-370 Readers: IQ-400 Board



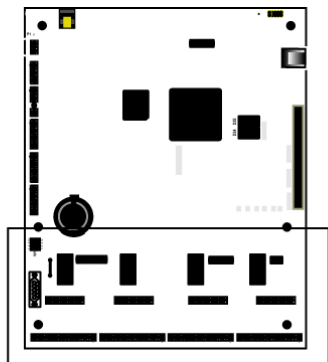
The IQ-400 supports Readers A, B, C and D.



## 5.4 Reader Connections: BR-370 Readers: Expansion Board



## 5.5 Reader Connections: PR233 MiniProx / PR-733/732: IQ-400 Board - Option 1



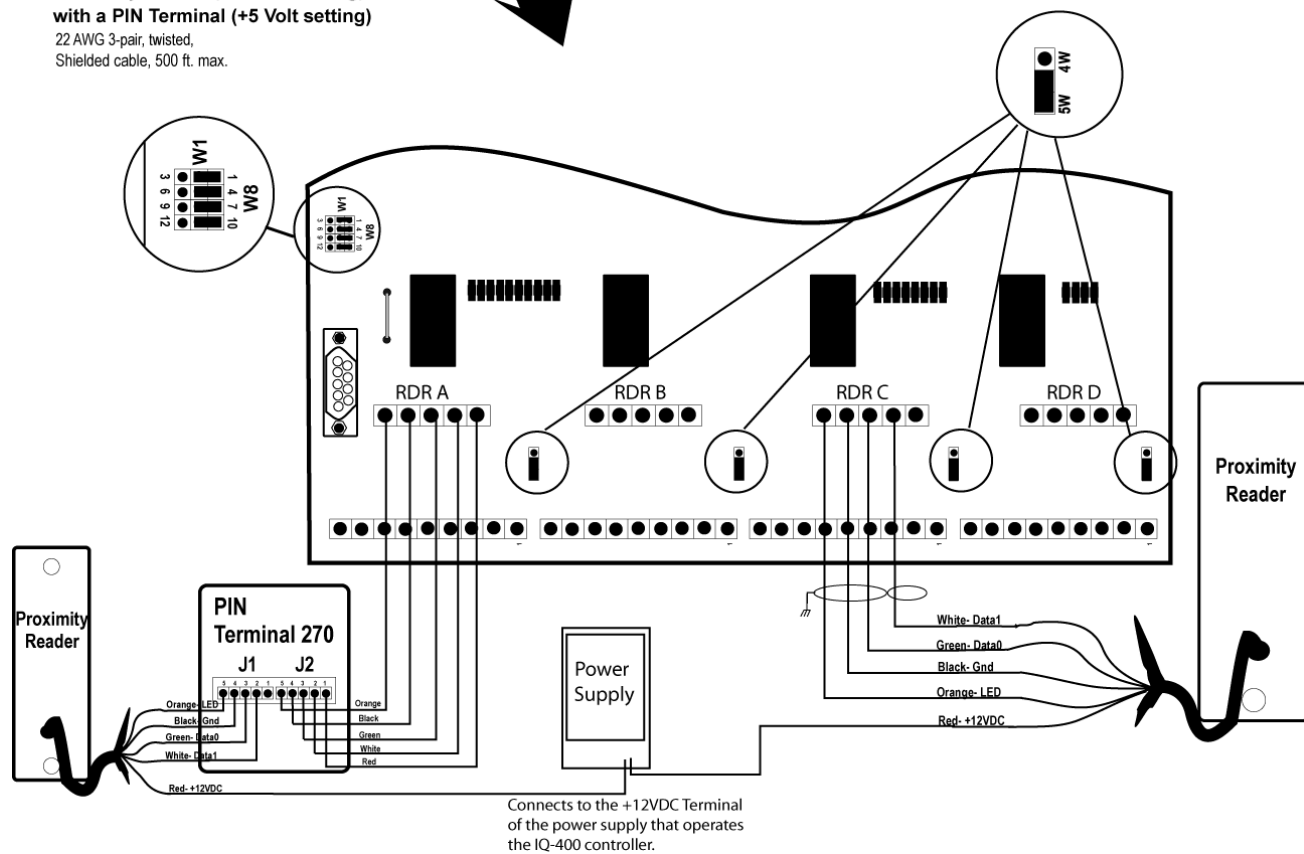
IQ-400 supports readers A, B, C, and D.

### Option 1 - +12VDC Operation

The reader is powered by the +12VDC power supply. If a pin pad is used, it is powered by the IQ-400 module, which is set for +5VDC.

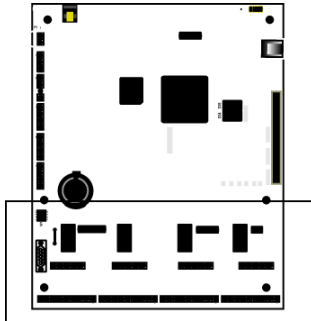
### Proximity Reader (+12 Volt setting) with a PIN Terminal (+5 Volt setting)

22 AWG 3-pair, twisted,  
Shielded cable, 500 ft. max.





## 5.6 Reader Connections: PR233 MiniProx / PR-733/732: IQ-400 Board - Option 2

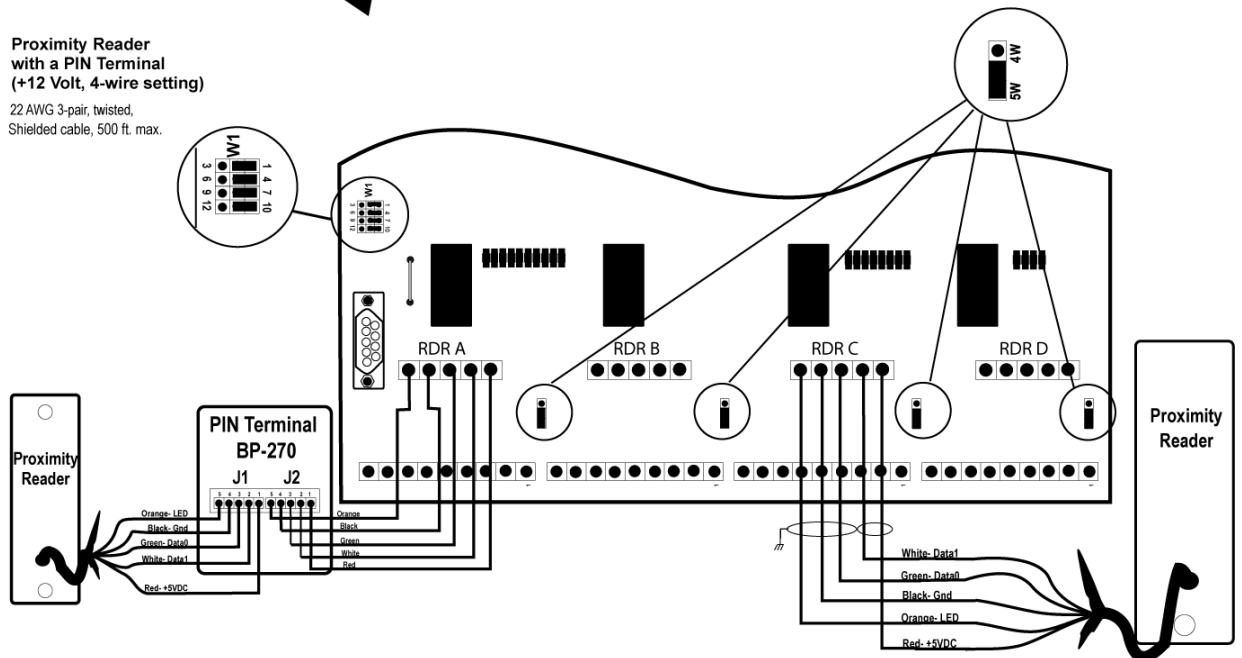


### Option 2 - +5VDC Operation

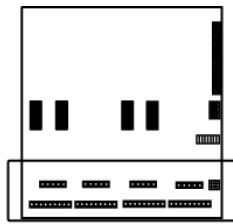
The reader and the pin pad (if it is used), is powered by the IQ-400 module, which is set for +5VDC.

### Proximity Reader with a PIN Terminal (+12 Volt, 4-wire setting)

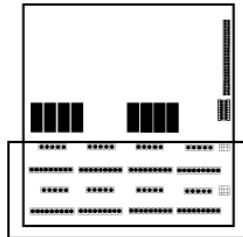
22 AWG 3-pair, twisted, Shielded cable, 500 ft. max.



## 5.7 Reader Connections: PR-233 Miniprox/ PR733/ 732: Expansion Board – Option 1



Four-Reader Expansion Board supports Readers E, F, G and H.



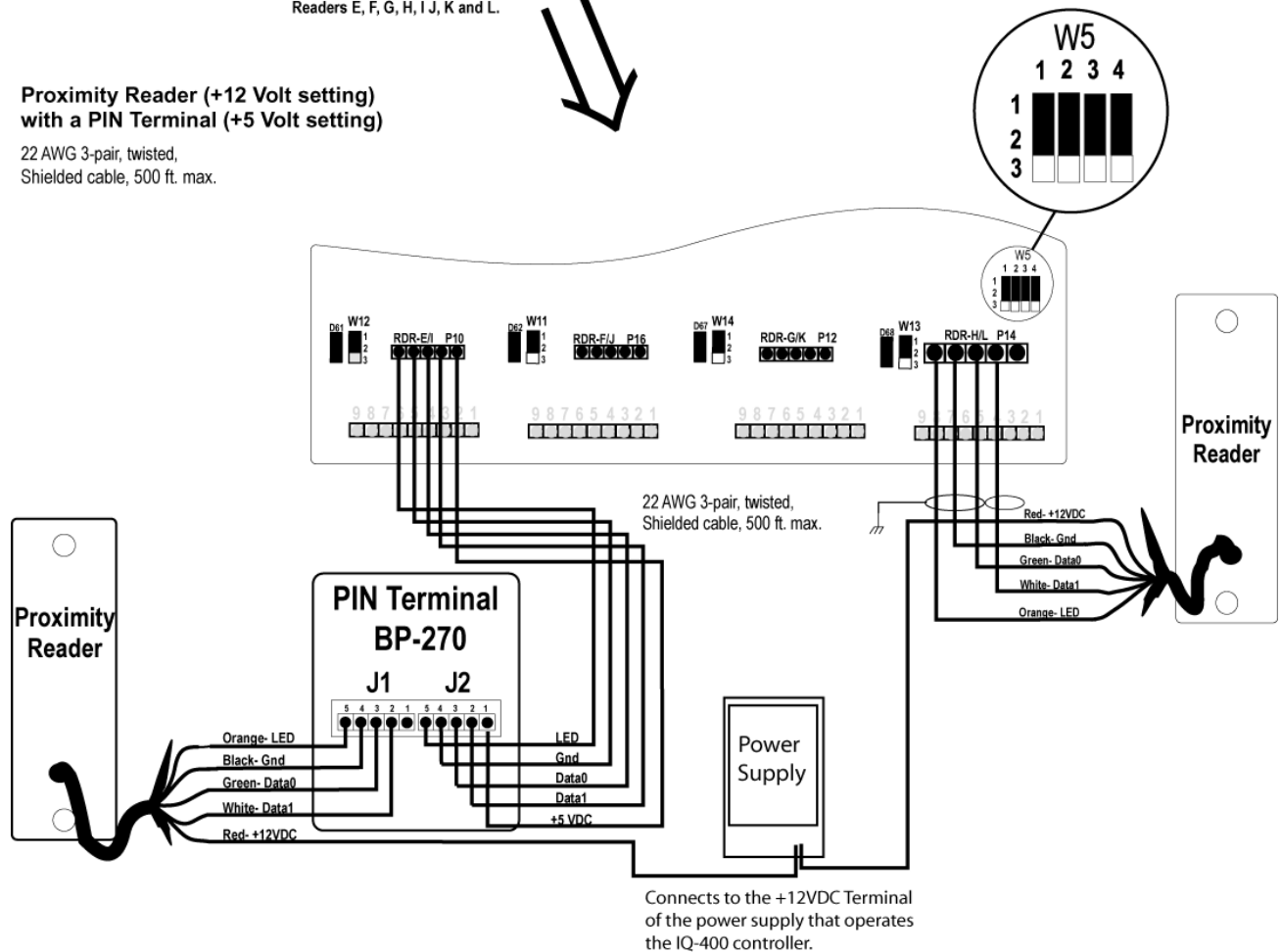
Eight-Reader Expansion Board supports Readers E, F, G, H, I, J, K and L.

### Option 1 - +12VDC Operation

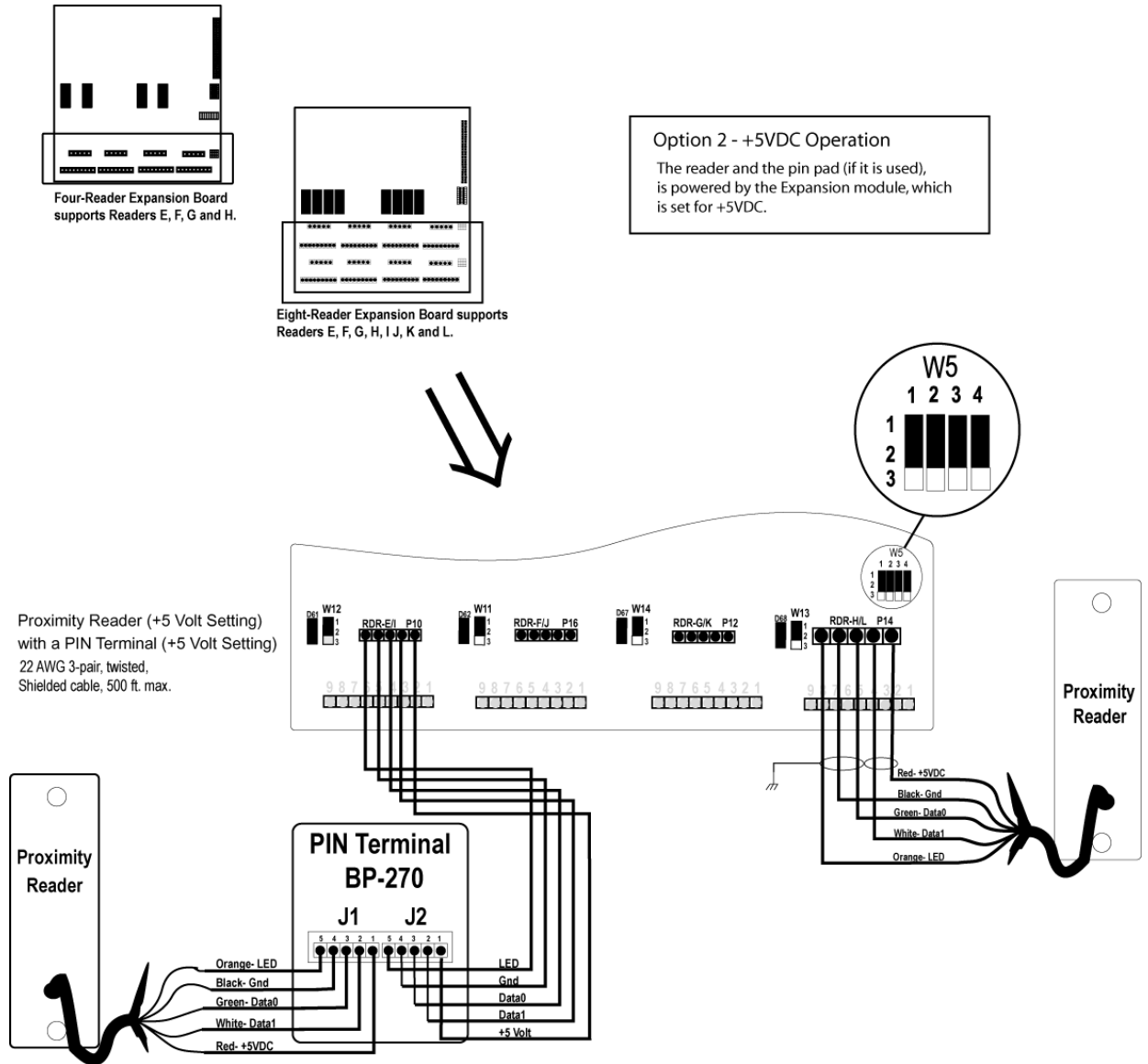
The reader is powered by the +12VDC power supply. If a pin pad is used, it is powered by the IQ-400 module, which is set for +5VDC.

### Proximity Reader (+12 Volt setting) with a PIN Terminal (+5 Volt setting)

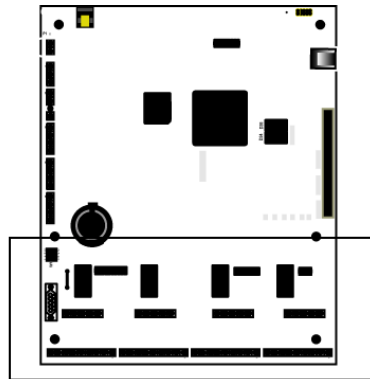
22 AWG 3-pair, twisted, Shielded cable, 500 ft. max.



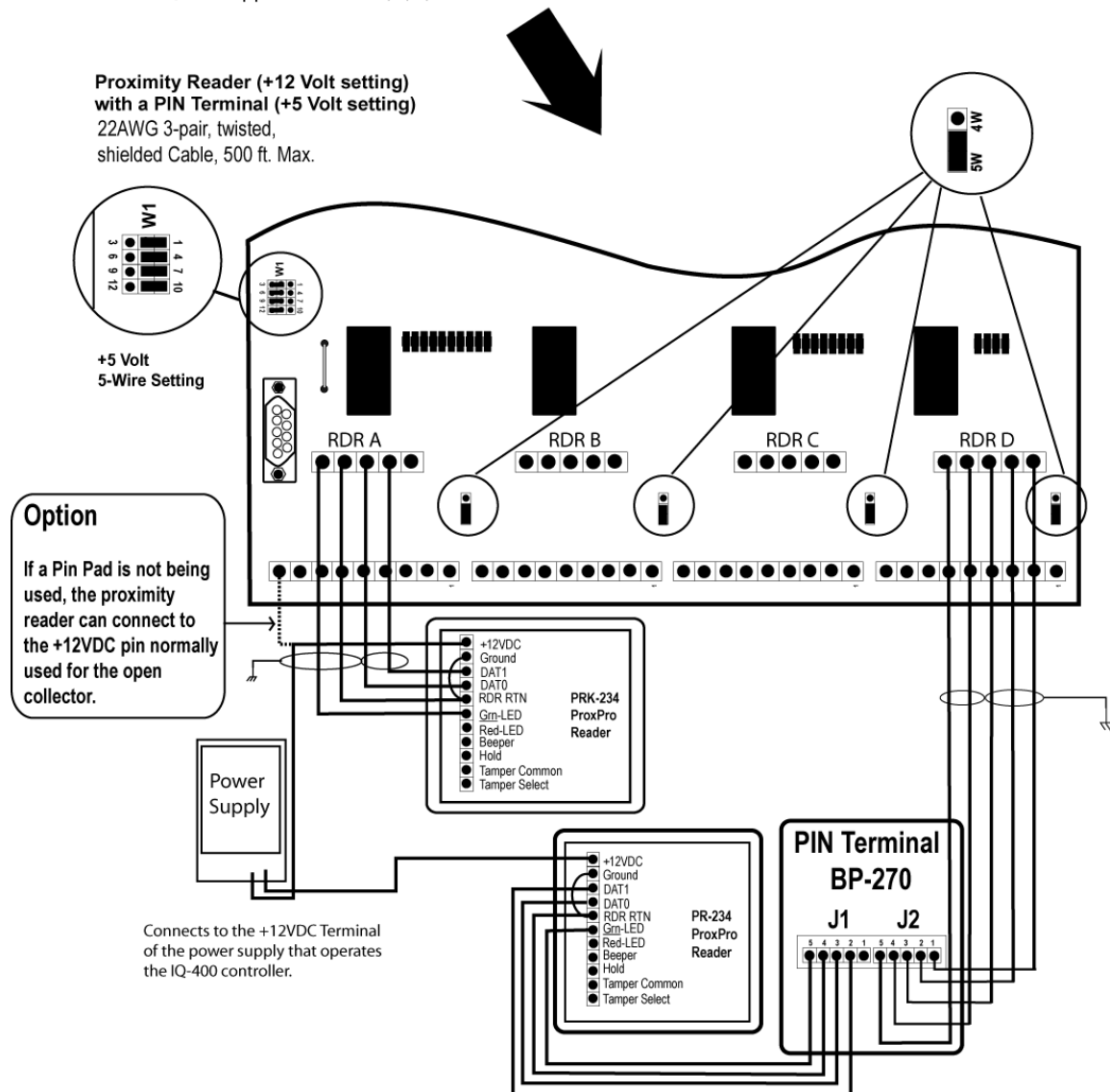
## 5.8 Reader Connections: PR-233 Miniprox / PR733 / 732: Expansion Board – Option 2



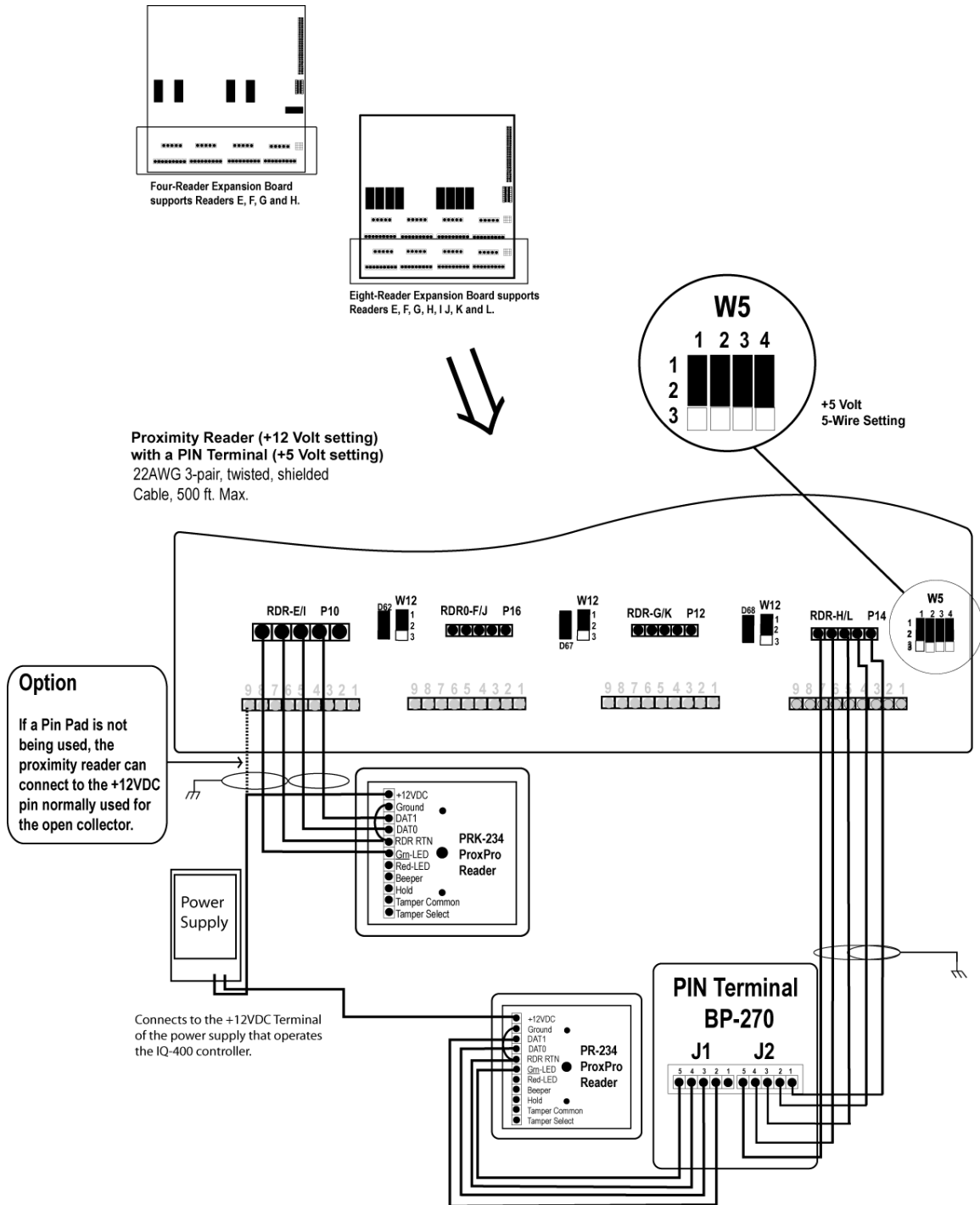
## 5.9 Reader Connections: PR-234 / PRK-234 ProxPro / PR736 / PRK-736: IQ-400 Board



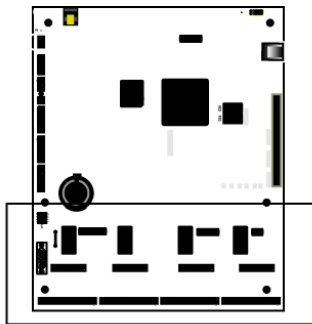
IQ-400 supports readers A, B, C, and D.



## 5.10 Reader Connections: PR-234 / PRK-234 ProxPro / PR736/ PRK-736: Expansion Board

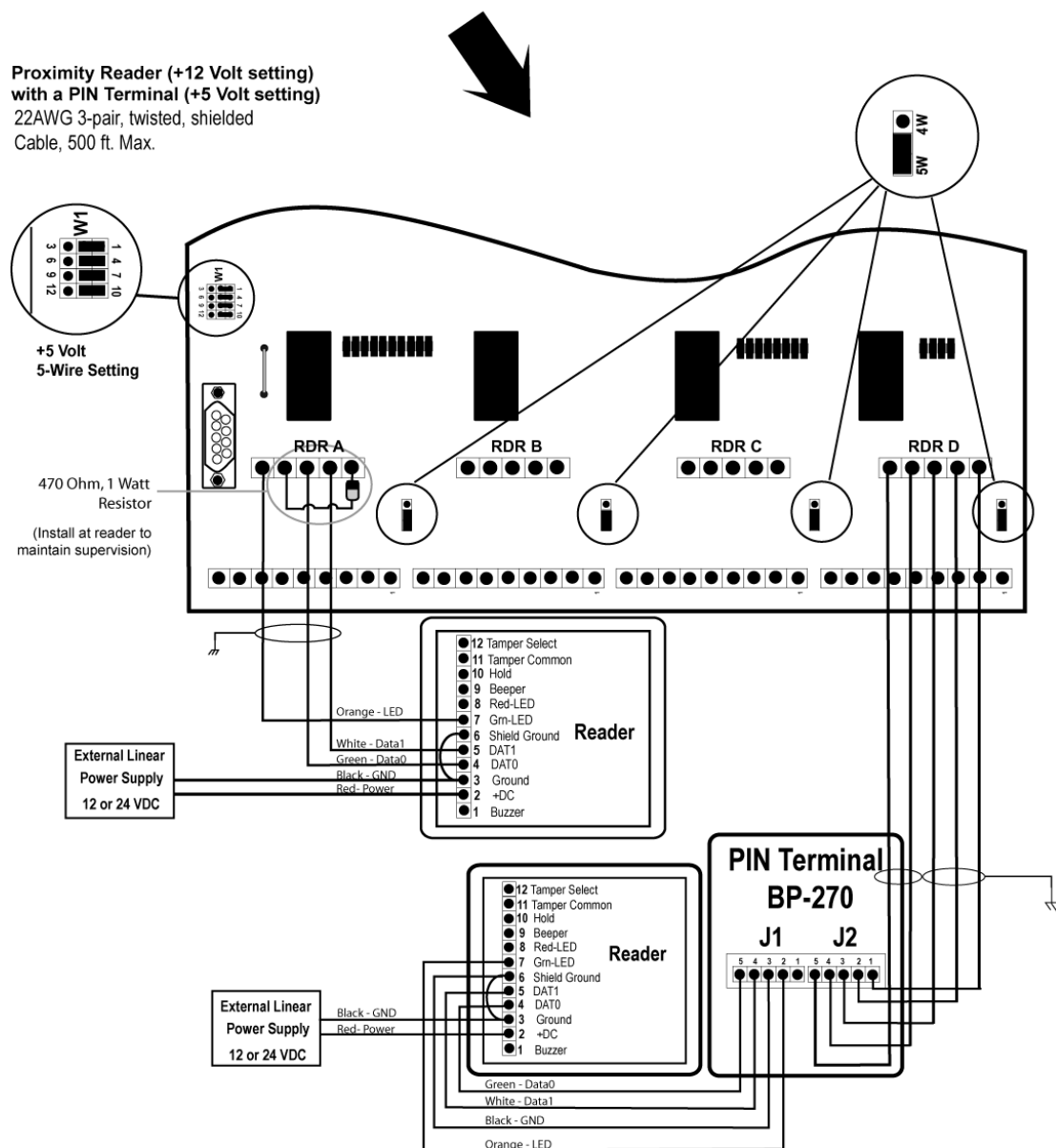


## 5.11 Reader Connections: PR-235 MaxiProx / PR-735: IQ-400 Board



IQ-400 supports readers A, B, C, and D.

Proximity Reader (+12 Volt setting)  
with a PIN Terminal (+5 Volt setting)  
22AWG 3-pair, twisted, shielded  
Cable, 500 ft. Max.



Four-Reader Expansion Board supports Readers E, F, G and H.

Eight-Reader Expansion Board supports Readers E, F, G, H, I, J, K and L.

**Proximity Reader (+12 Volt setting) with a PIN Terminal (+5 Volt setting)**  
 22AWG 3-pair, twisted, shielded Cable, 500 ft. Max.

**W12**  
 1 2 3  
 1 2 3  
 D68

**W5**  
 1 2 3 4  
 1 2 3  
 +5 Volt, 5-wire setting

**W12**  
 1 2 3  
 D61

**W12**  
 1 2 3  
 D62

**W12**  
 1 2 3  
 D67

**W12**  
 1 2 3  
 D68

**W5**  
 1 2 3 4  
 1 2 3

**PIN Terminal BP-270**  
 J1 J2  
 5 4 3 2 1 5 4 3 2 1

**External Linear Power Supply 12 or 24 VDC**

**MaxiProx Reader**  
 12 Tamper Select  
 11 Tamper Common  
 10 Hold  
 9 Beeper  
 8 Red-LED  
 7 Grn-LED  
 6 Shield Ground  
 5 DAT1  
 4 DAT0  
 3 Ground  
 2 +DC  
 1 Buzzer

**MaxiProx Reader**  
 12 Tamper Select  
 11 Tamper Common  
 10 Hold  
 9 Beeper  
 8 Red-LED  
 7 Grn-LED  
 6 Shield Ground  
 5 DAT1  
 4 DAT0  
 3 Ground  
 2 +DC  
 1 Buzzer

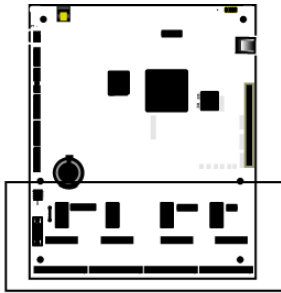
470 Ohm, 1 Watt Resistor  
 (Install at reader to maintain supervision)

Orange - LED  
 White - Data1  
 Green - Data0  
 Black - GND  
 Red - Power

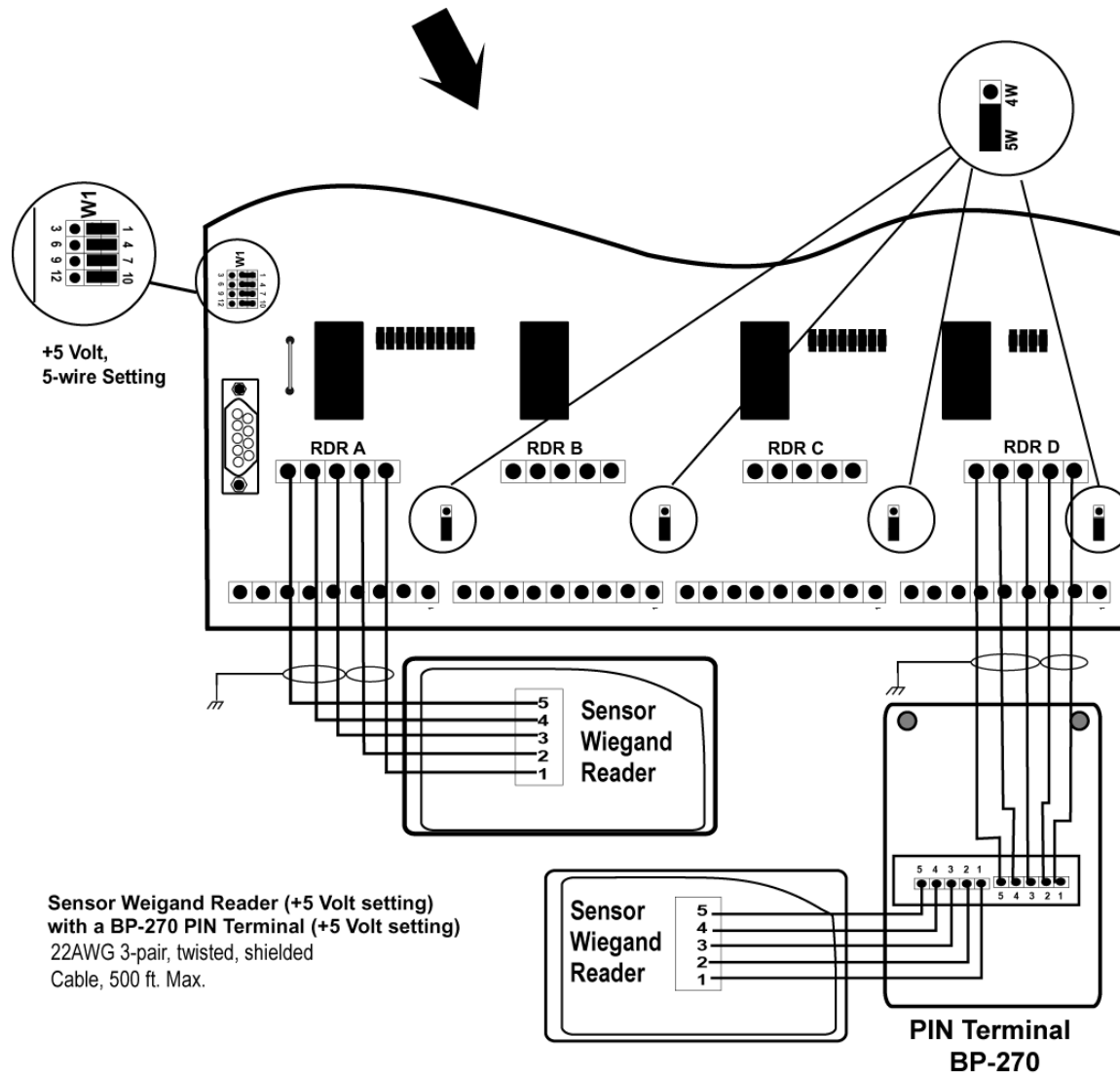
**External Linear Power Supply 12 or 24 VDC**

**MaxiProx Reader**  
 12 Tamper Select  
 11 Tamper Common  
 10 Hold  
 9 Beeper  
 8 Red-LED  
 7 Grn-LED  
 6 Shield Ground  
 5 DAT1  
 4 DAT0  
 3 Ground  
 2 +DC  
 1 Buzzer

## 5.13 Reader Connections: Sensor Wiegand: IQ-400 Board

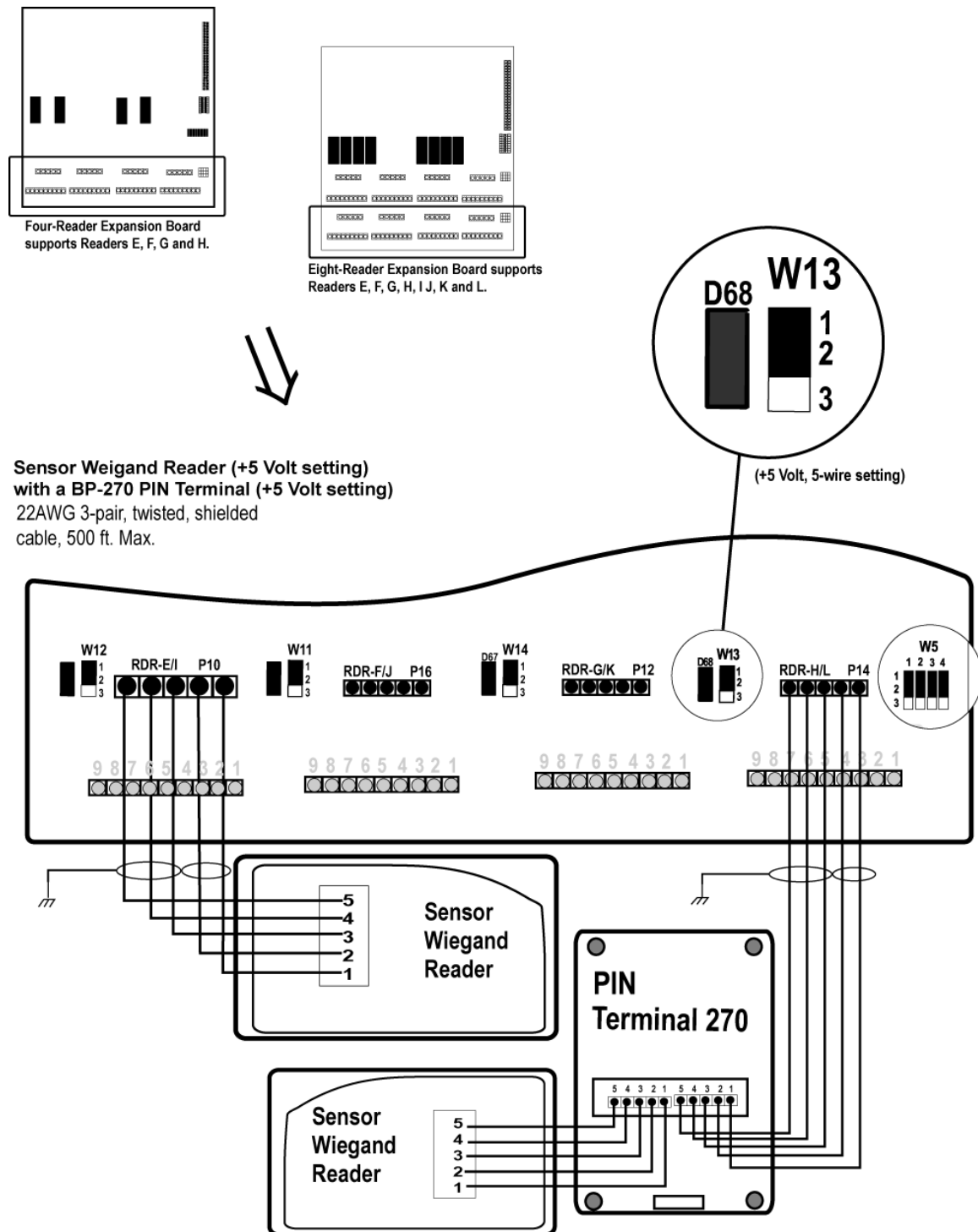


IQ-400 supports readers A, B, C, and D.

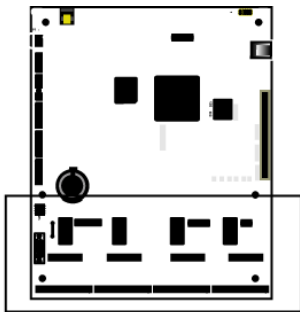




## 5.14 Reader Connections: Sensor Wiegand: Expansion Board

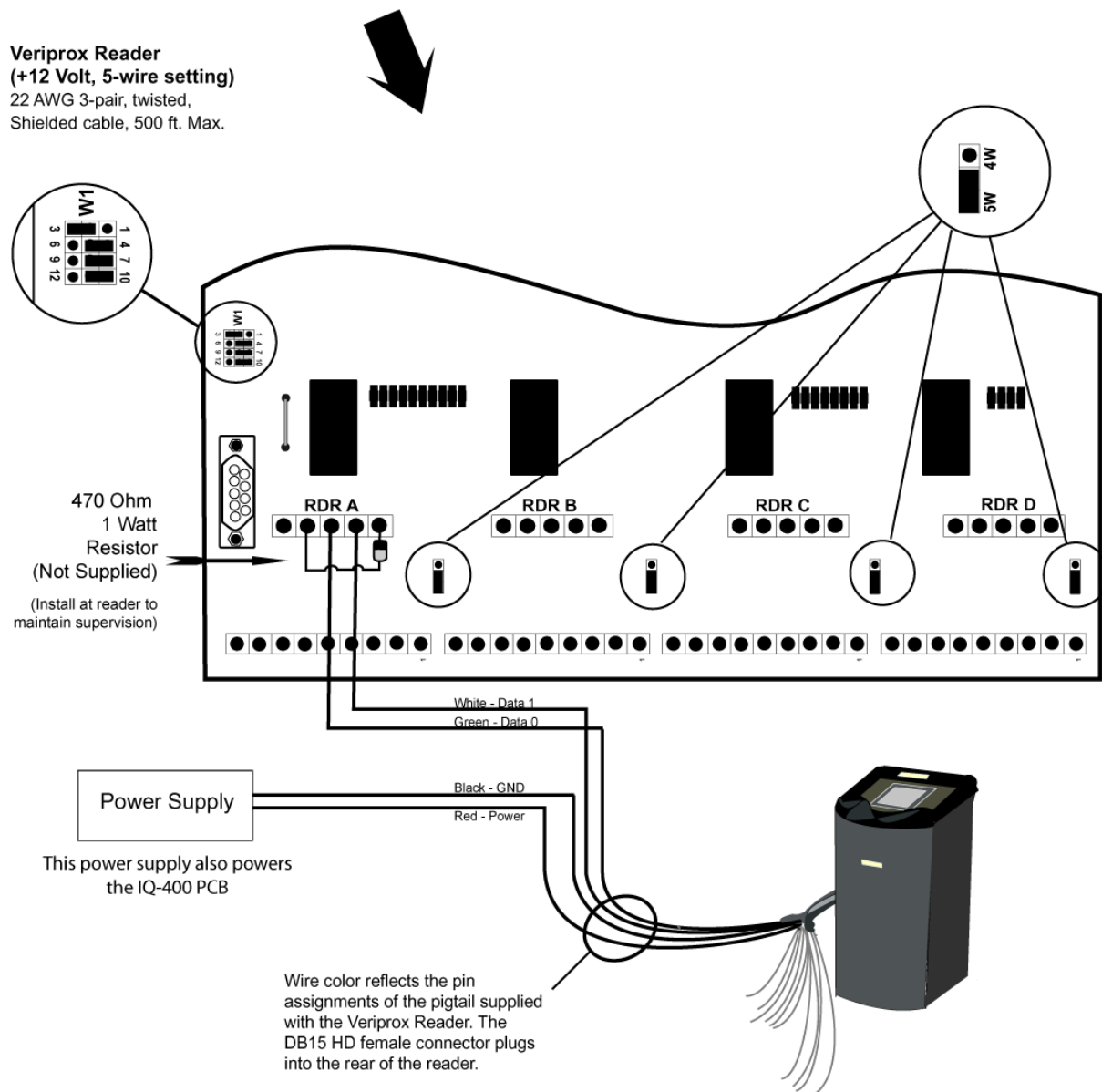


## 5.15 Reader Connections: VeriProx: IQ-400 Board

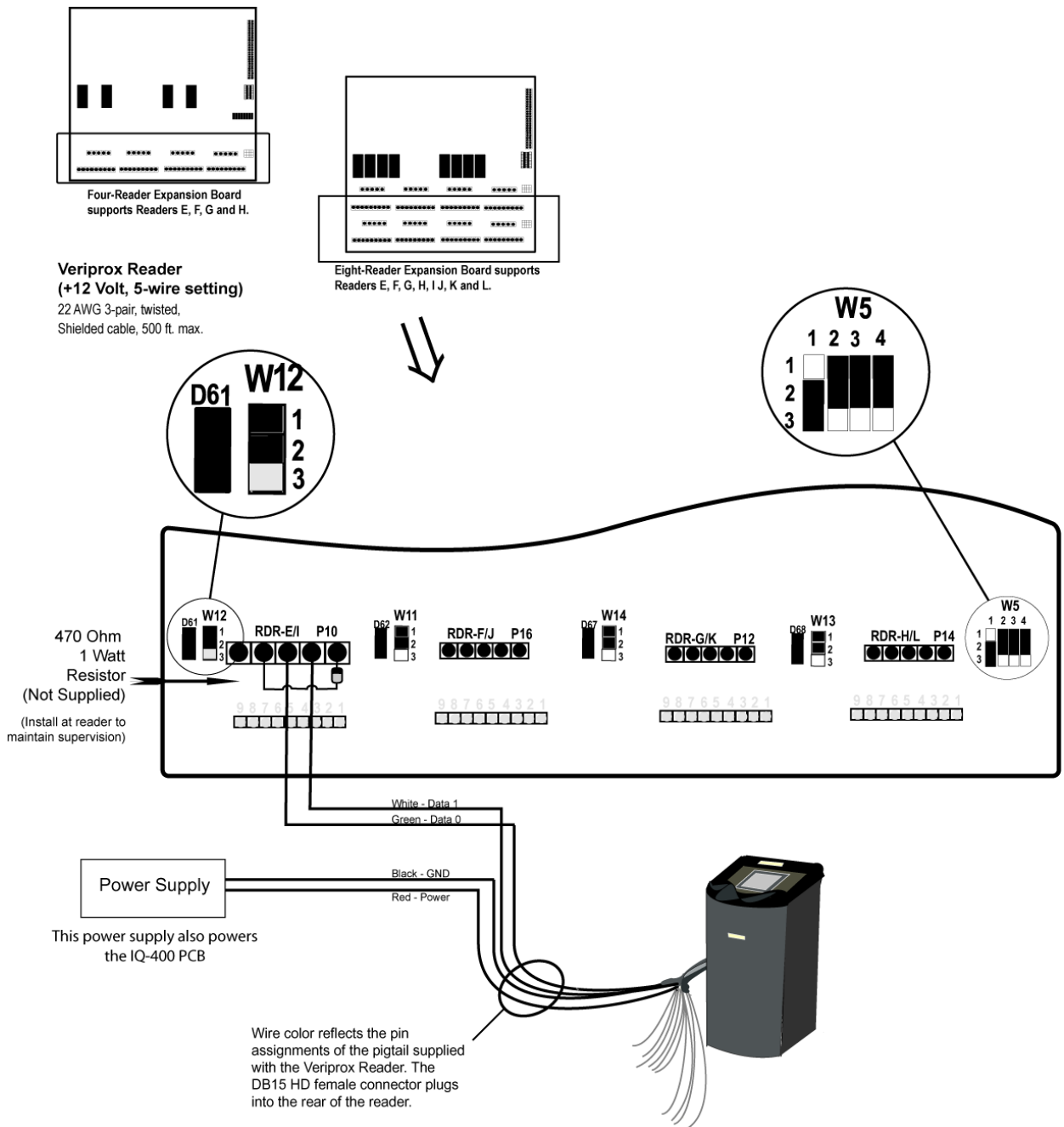


IQ-400 supports readers A, B, C, and D.

**Veriprox Reader**  
 (+12 Volt, 5-wire setting)  
 22 AWG 3-pair, twisted,  
 Shielded cable, 500 ft. Max.



## 5.16 Reader Connections: VeriProx: Expansion Board



## 6.0 Wiring the Door(s)

Step 1. When power is interrupted from the IQ-400, the door relay **de-energizes** and continuity (conduction path) exists between the Common (Com.) and Normally Closed (N.C.) relay contacts. Should this loss-of-power situation arise, it must be determined whether the door(s) controlled by the IQ-400 will become unlocked (or a Fail-Safe environment), or locked (or a Fail-Secure environment).

Step 2. Refer to the two types of door hardware below and the circuit conditions that coincide with the state of the locks.

**Case A.** Door Strike hardware requires continuity to unlock (for strikes that require power to lock, follow the outline given for maglocks). This is provided by a closed circuit condition (Normally Closed [N.C.]).

**Case B.** Door Strike hardware does NOT require continuity to lock (for strikes that require power to lock, follow the outline given for maglocks). This is provided by an open circuit condition (Normally Open [N.O.]).

**Case C.** Magnetic lock hardware requires continuity to lock. This is provided by a closed circuit condition (Normally Closed [N.C.]).

**Case D.** Magnetic lock hardware does NOT require continuity to unlock. This is provided by an open circuit condition (Normally Open [N.O.]).

Step 3. For **Fail-Safe** operation, wire the appropriate door lock hardware to accommodate an **unlocked** condition upon interruption of IQ-400 power. This is implemented by:

- For door strikes, wire between the Common and Normally Closed Door Relay contacts.
- For Magnetic Locks, wire between the Common and Normally Open Door Relay contacts.

For **Fail-Secure** operation, wire the appropriate door lock hardware to accommodate a locked condition upon interruption of IQ-400 power. This is implemented by:

- For door strikes, wire between the Common and Normally Open Door Relay contacts.
- For Magnetic Locks, wire between the Common and Normally Closed Door Relay contacts.

**NOTE** For both conditions (Fail Safe and Fail Secure) it is presumed that Lock Power is battery backed.

Step 4. Next page

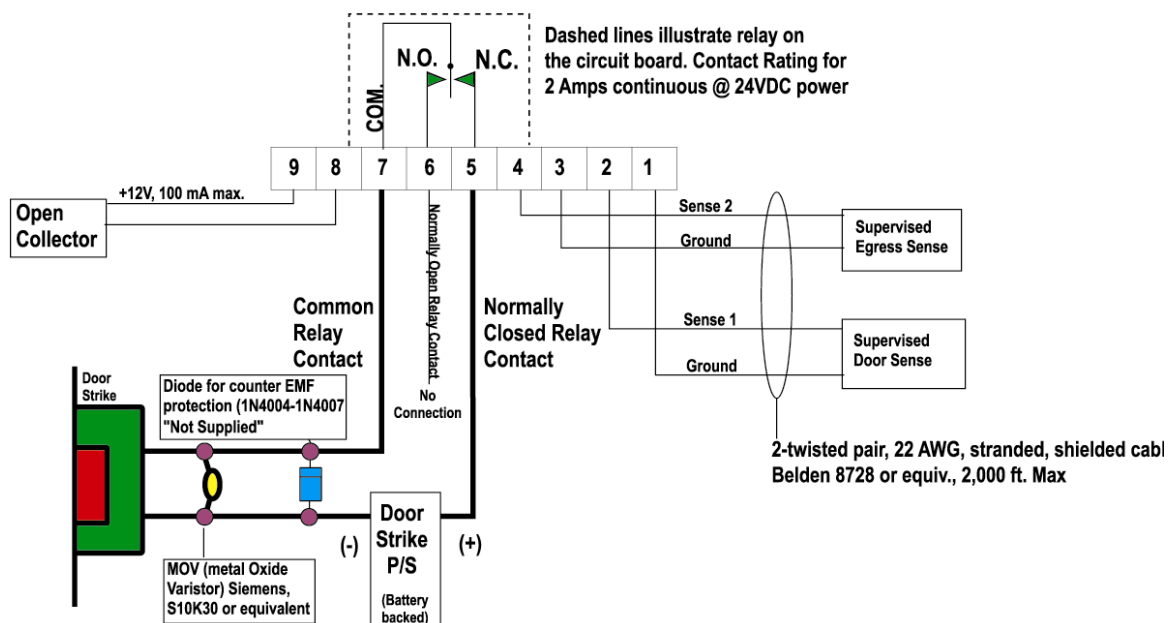
Step 4. Program the quiescent (INACTIVE) state of the door output relay to provide a locked door state. For **Fail-Safe** environments, the quiescent state of the door output relay should be ENERGIZED. For **Fail-Secure** environments, it should be DE-ENERGIZED.

Consult the **LiNC-NET Administrator Manual (P/N: 38-10049-001) Door Overview/Hardware** section for programming information.

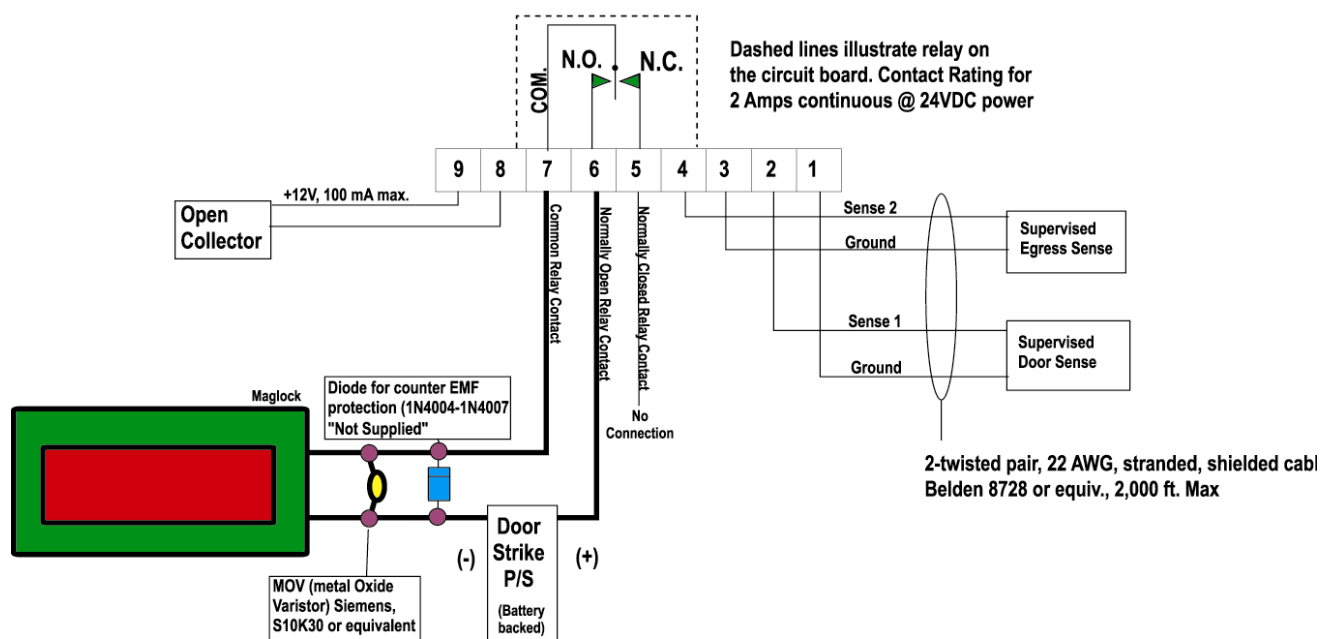
**Open Collector Output:** Open collector outputs are designed to drive an external relay. This technique can be used to control devices which exceed the relay capacity of those on board the IQ-400. The open collector outputs are capable of 100 mA current @ 12VDC.

## 6.1 Panel in a Fail-Safe Environment

### Example of the IQ-400 with a Doorstrike in a Fail-Safe Environment

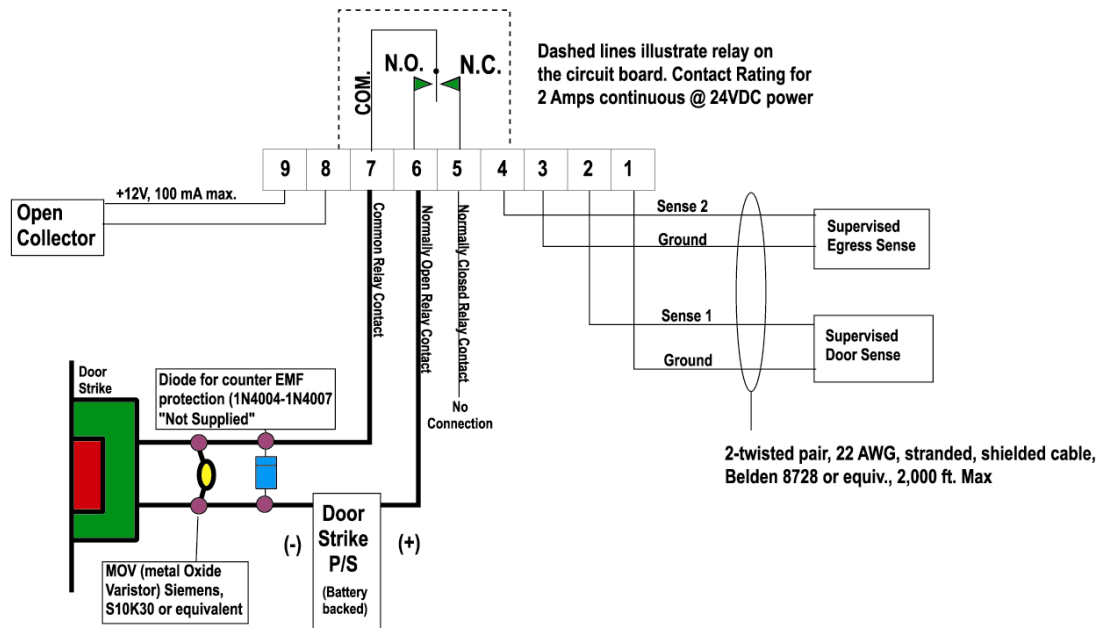


### Example of the IQ-400 with a Maglock in a Fail-Safe Environment

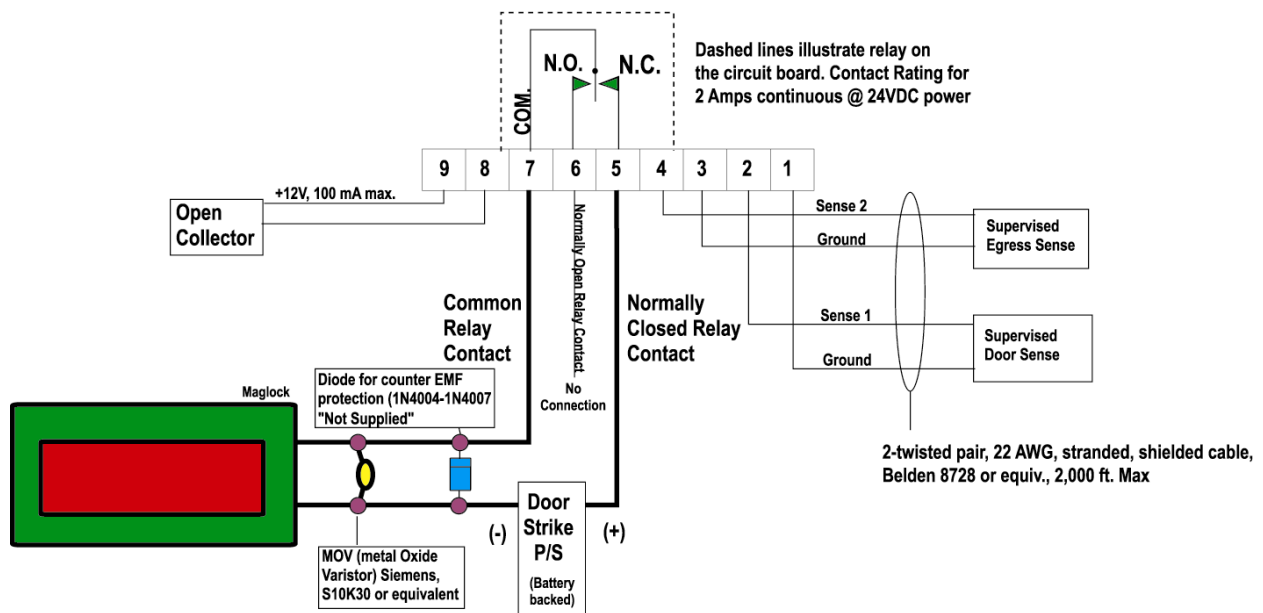


### Example of the IQ-400 with a Doorstrike in a Fail-Secure Environment

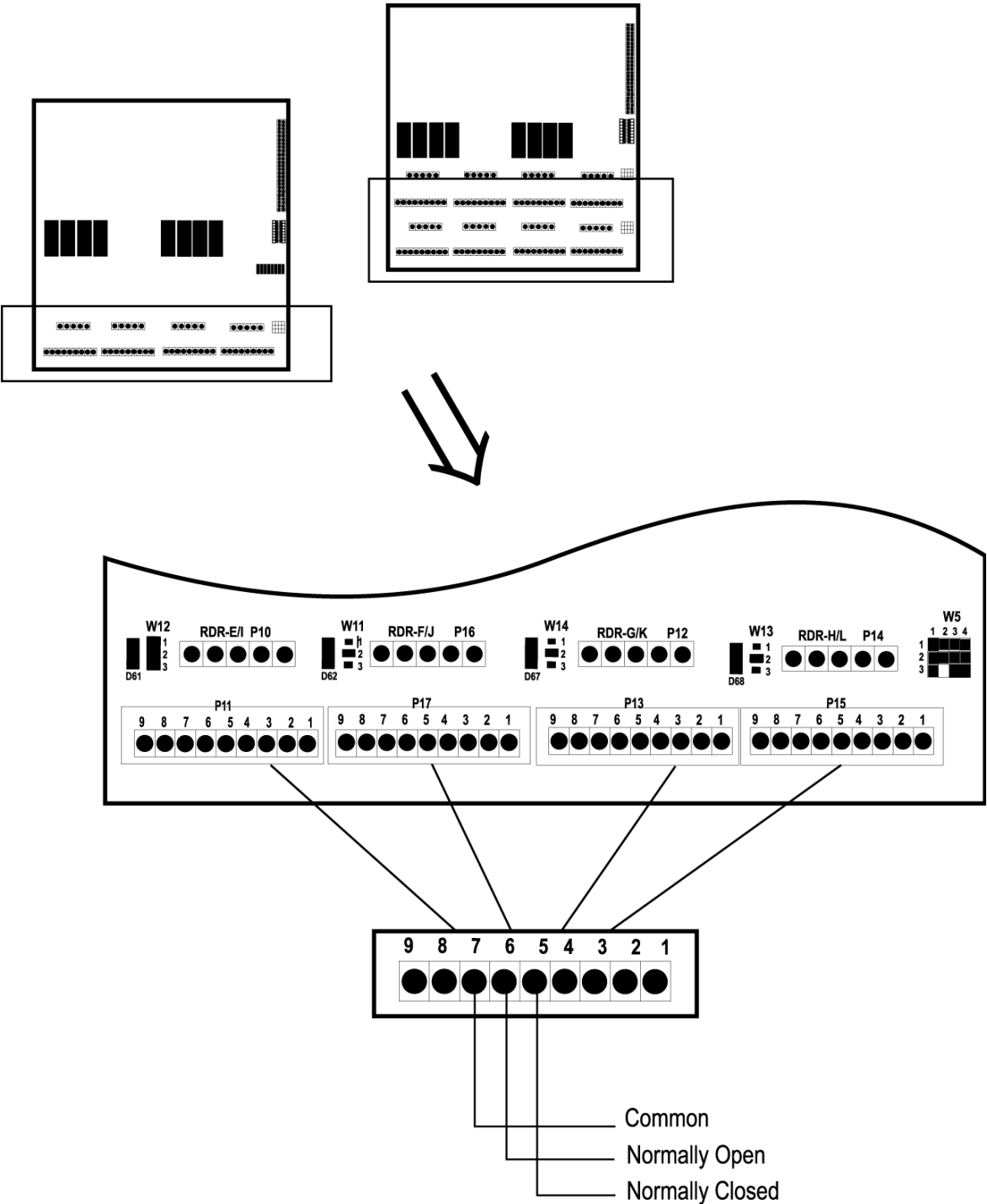
### Example of the IQ-400 with a Doorstrike in a Fail-Secure Environment



### Example of the IQ-400 with a Maglock in a Fail-Secure Environment

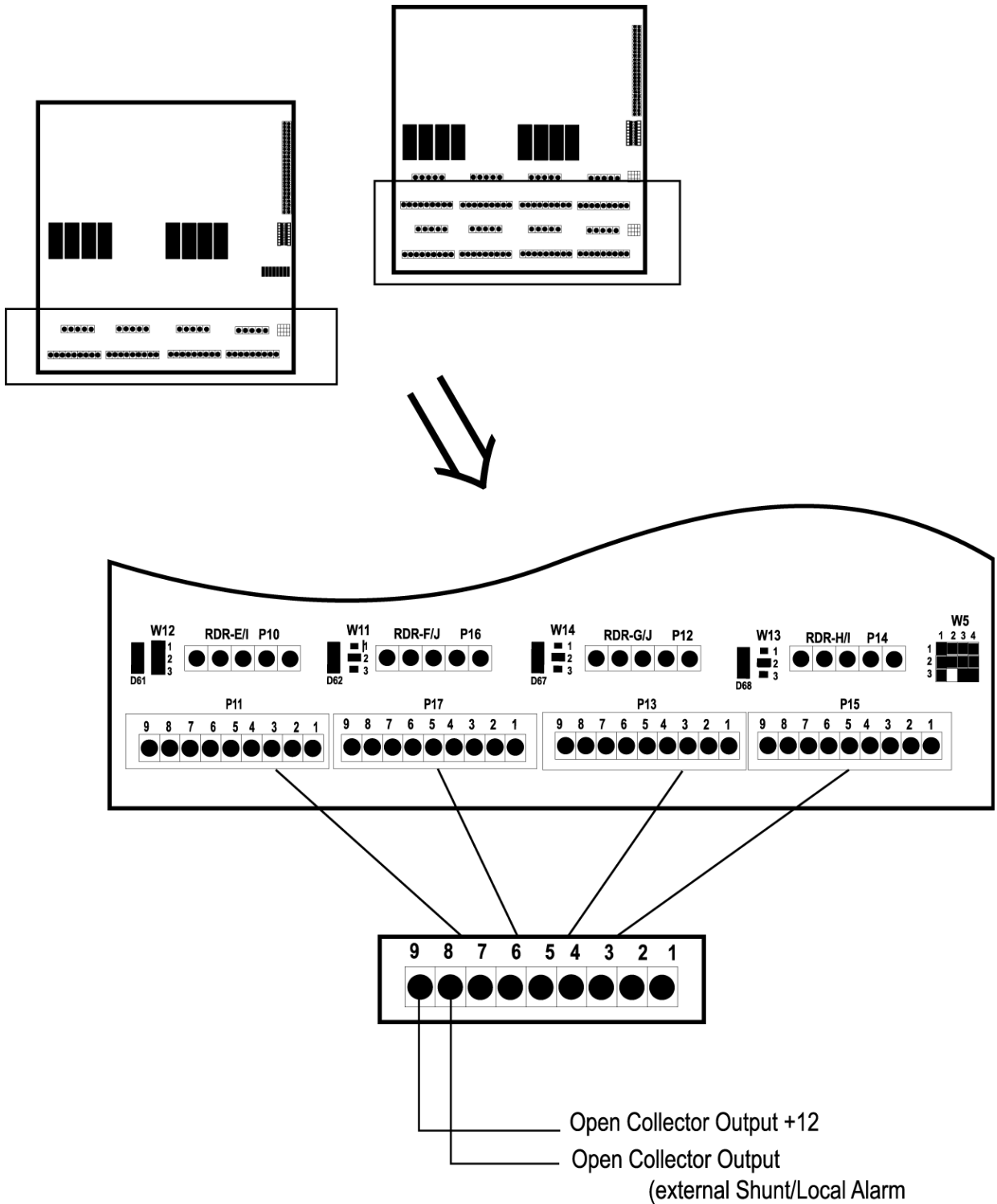


6.3 Expansion Board Door Lock/Strike



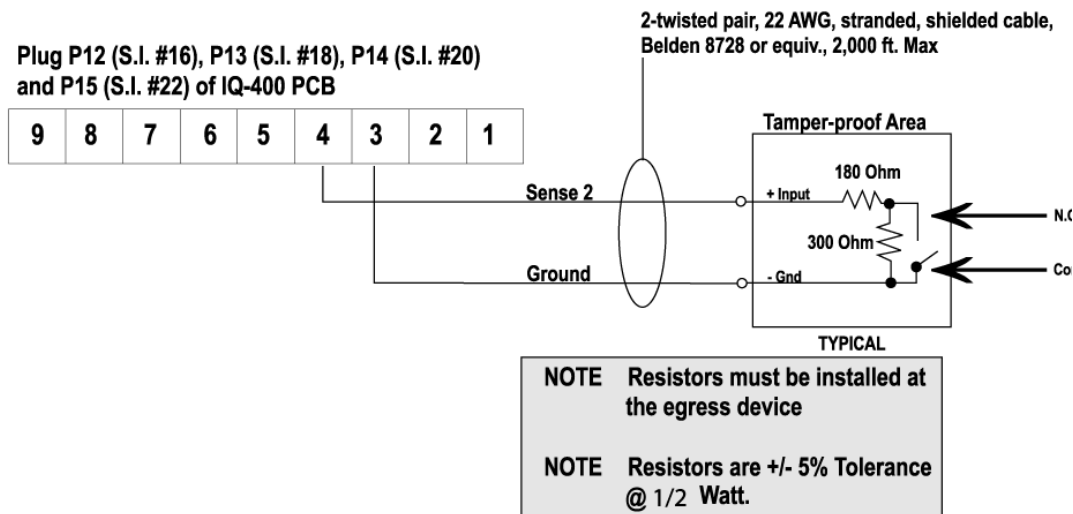


## 6.4 Expansion Board Open Collector

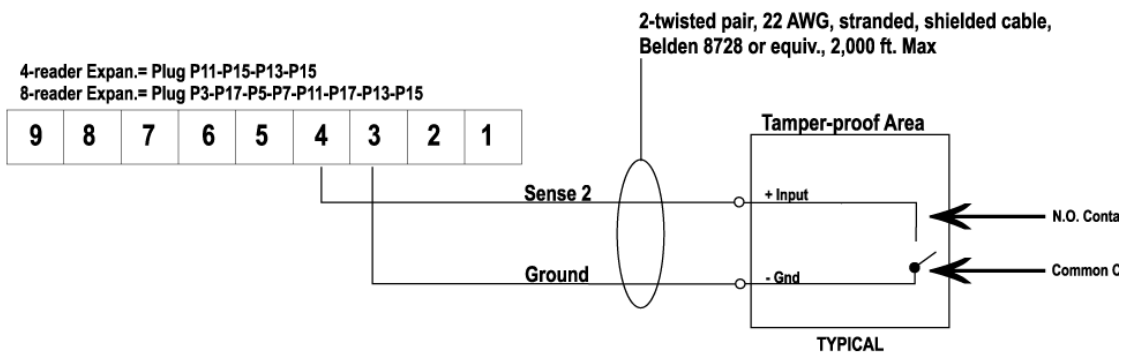


## 6.5 Egress Sense for IQ-400 and Expansion Boards

### Supervised Egress Sense for the IQ-400



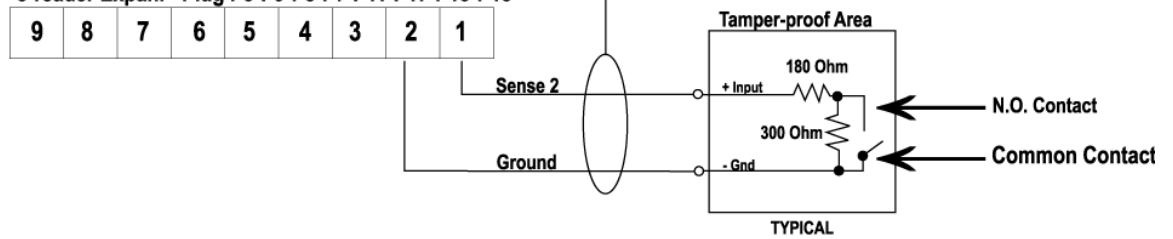
### Unsupervised Egress Sense for the 4/8 Reader Expansion Module



## 6.6 Door Sense for IQ-400 and Expansion Boards

### Supervised Door Sense

Plug P12 (S.I. #17), P13 (S.I. #19), Plug P14 (S.I. #21)  
and P15 (S.I. #23) of IQ-400 PCB  
4-reader Expan.= Plug P11-P17-P13-P15  
8-reader Expan.= Plug P3-P9-P5-P7-P11-P17-P13-P15



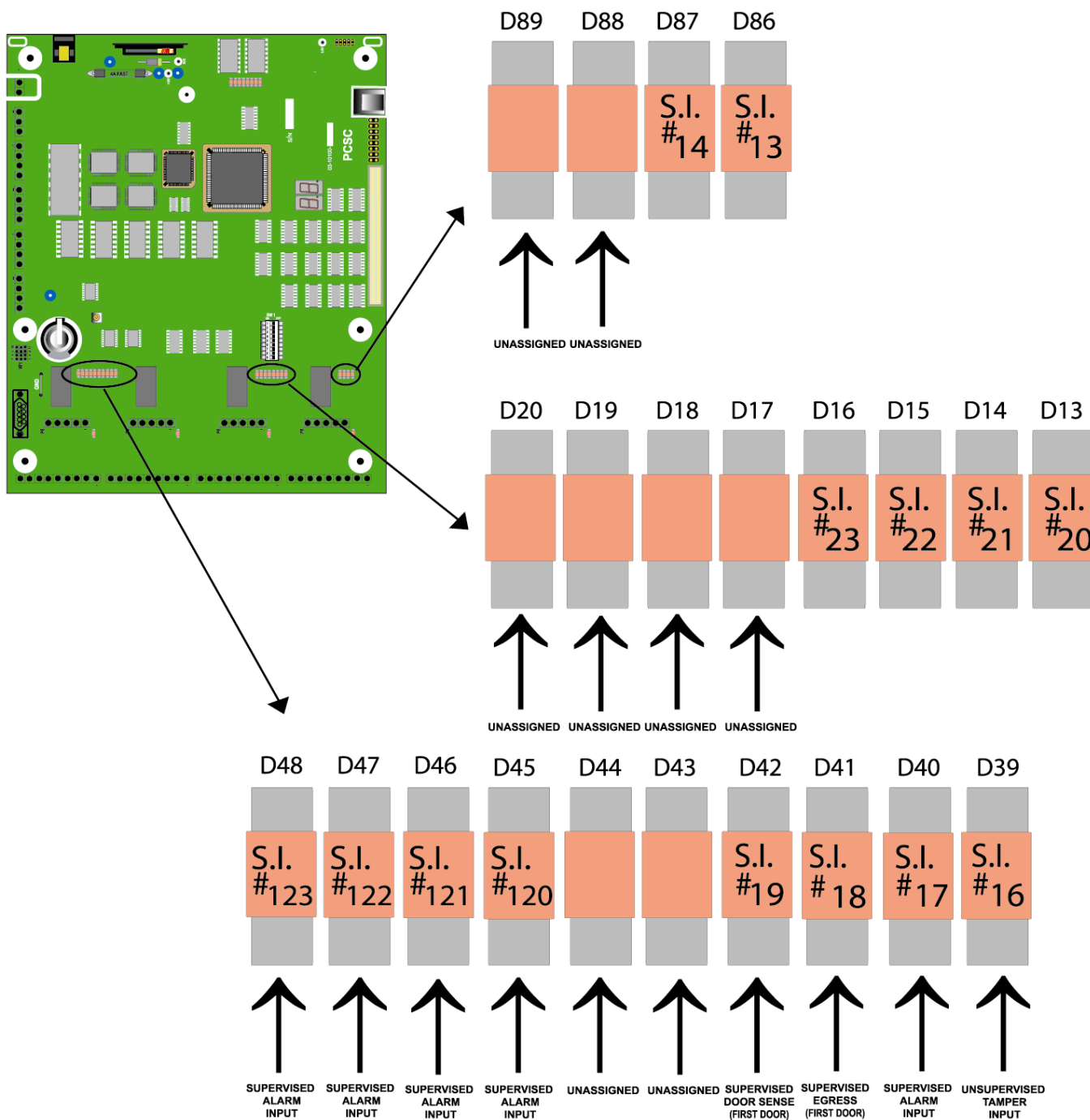
**NOTE** Resistors must be installed at the door switch

**NOTE** Resistors are +/- 5% Tolerance  
@ 1/2 Watt

**NOTE** For UL Installations, the maximum number of alarm signals shall not exceed 1000.

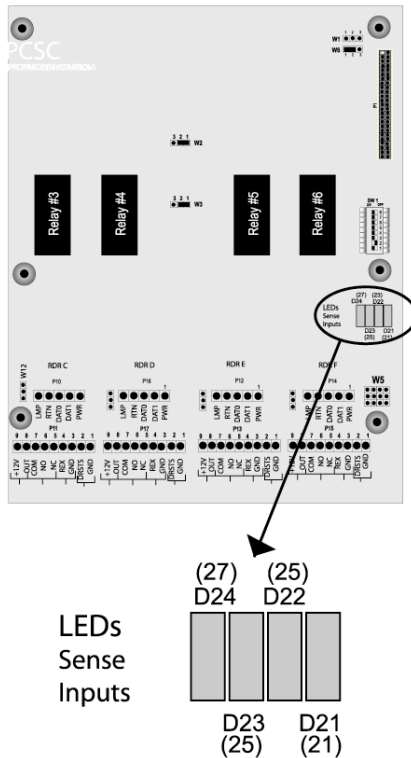
## 6.6.1 Using the Ten Discrete LEDs

Twenty-two LED's, located across the lower section of the IQ-400 board, indicate the status of the supervised door circuits. Also the unsupervised tamper, supervised egress inputs, and supervised alarm inputs are annunciated in the LED's as listed below:

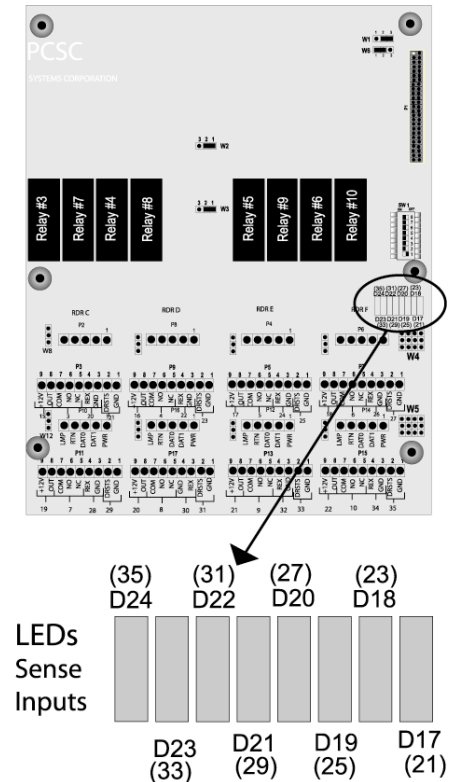


## 6.6.2 Expansion Board LED Arrays

### 4-Door Expansion Board (IQ-800)



### 8-Door Expansion Board (IQ-1200)



**NOTE:** Numbers in parentheses are the Sense Input Numbers. The “D” Numbers are the corresponding LED’s assigned to reflect the current status of each individual Sense Input (IQ-400 Firmware I4+07.010.02 series).

#### 6.6.2.1 Status Chart For All IQ-400 Sense Inputs

**OFF**

**ON**

**Flashes 2 times per second**

**Flashes 1 time per second**

**Flashes every ¼ second**

Circuit is normal/secure

Circuit is in an alarm condition

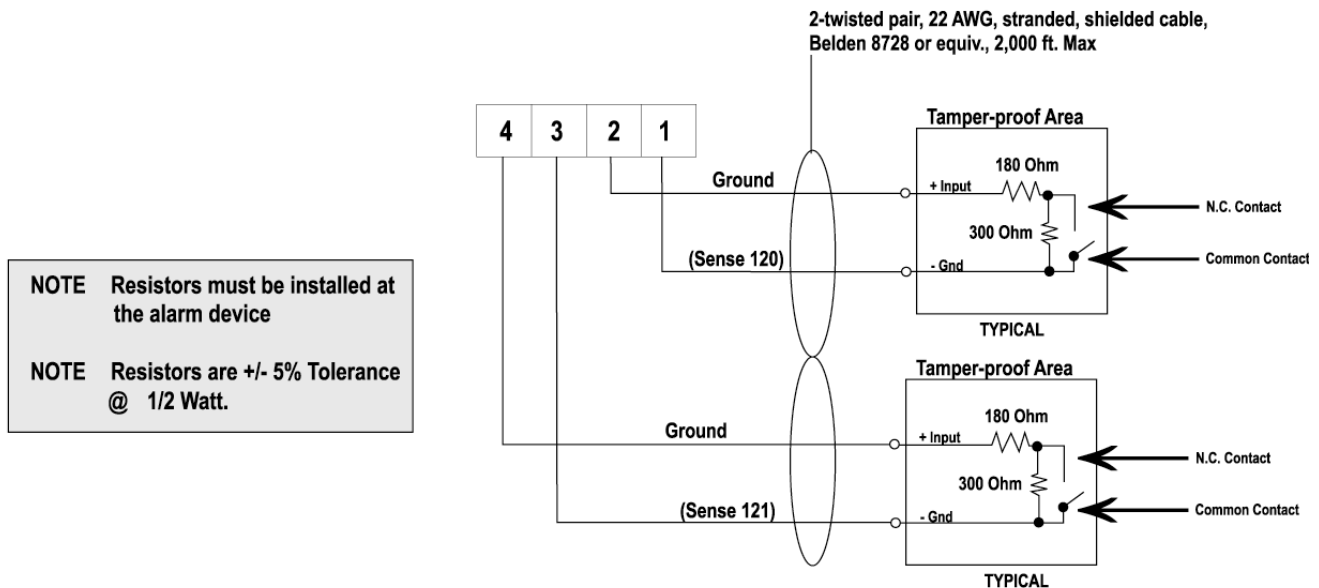
Fault condition. Open circuit

Fault condition. Short circuit.

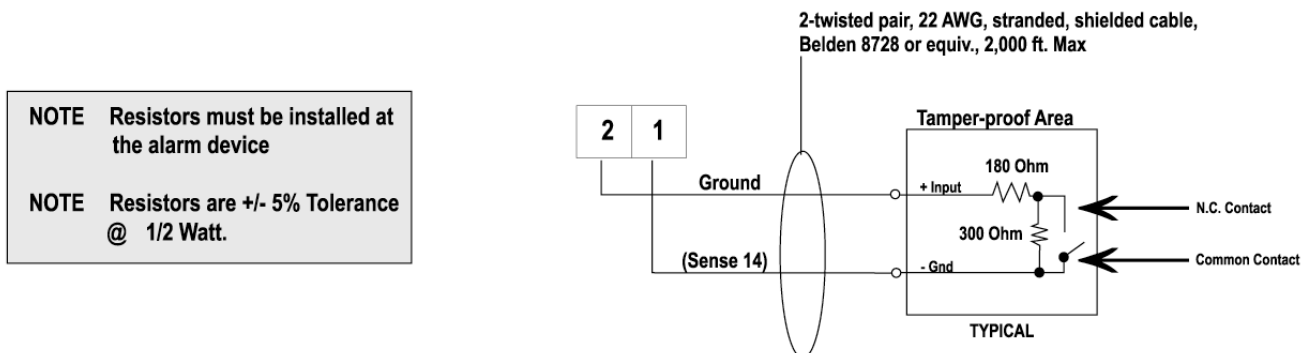
Circuit is NOT calibrated and NOT functional.

## 6.7 Supervised Sense Inputs for P5 and P19 and Unsupervised Tamper at P8

### Supervised User-Defined Sense Inputs at P5



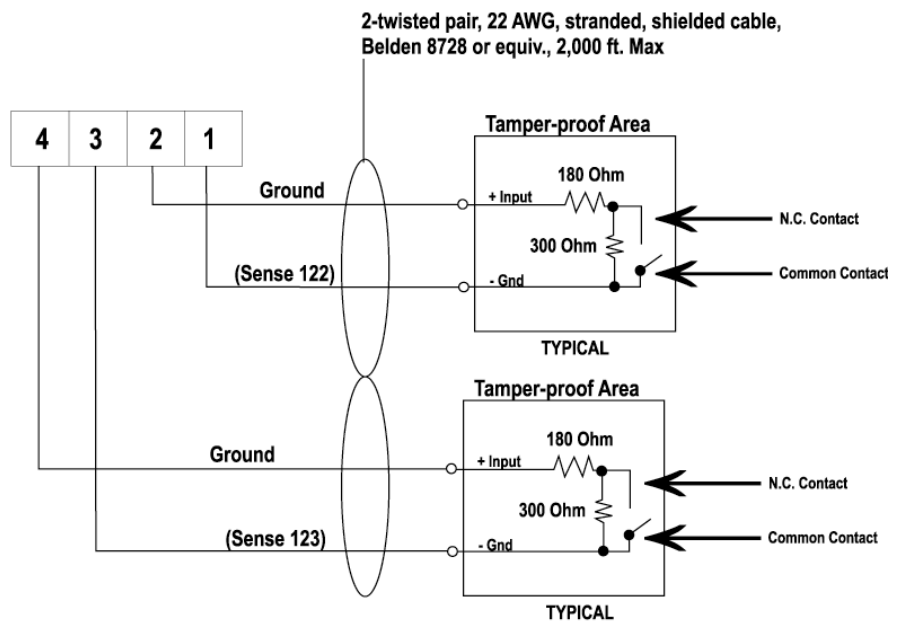
### Supervised User-Defined Sense Inputs at P19



## Supervised User-Defined Sense Inputs at P6

**NOTE** Resistors must be installed at the alarm device

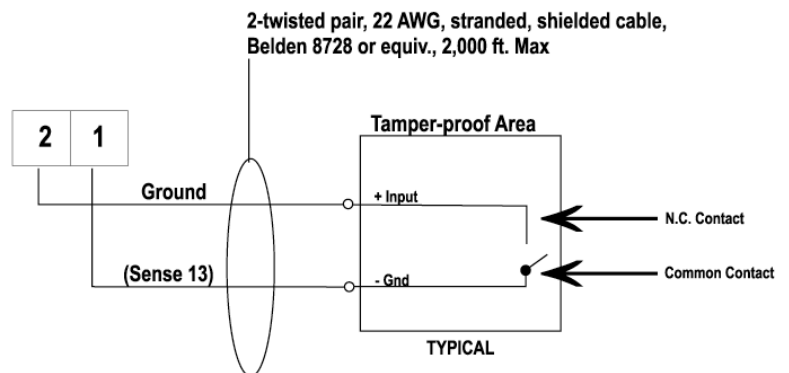
**NOTE** Resistors are +/- 5% Tolerance @ 1/2 Watt.



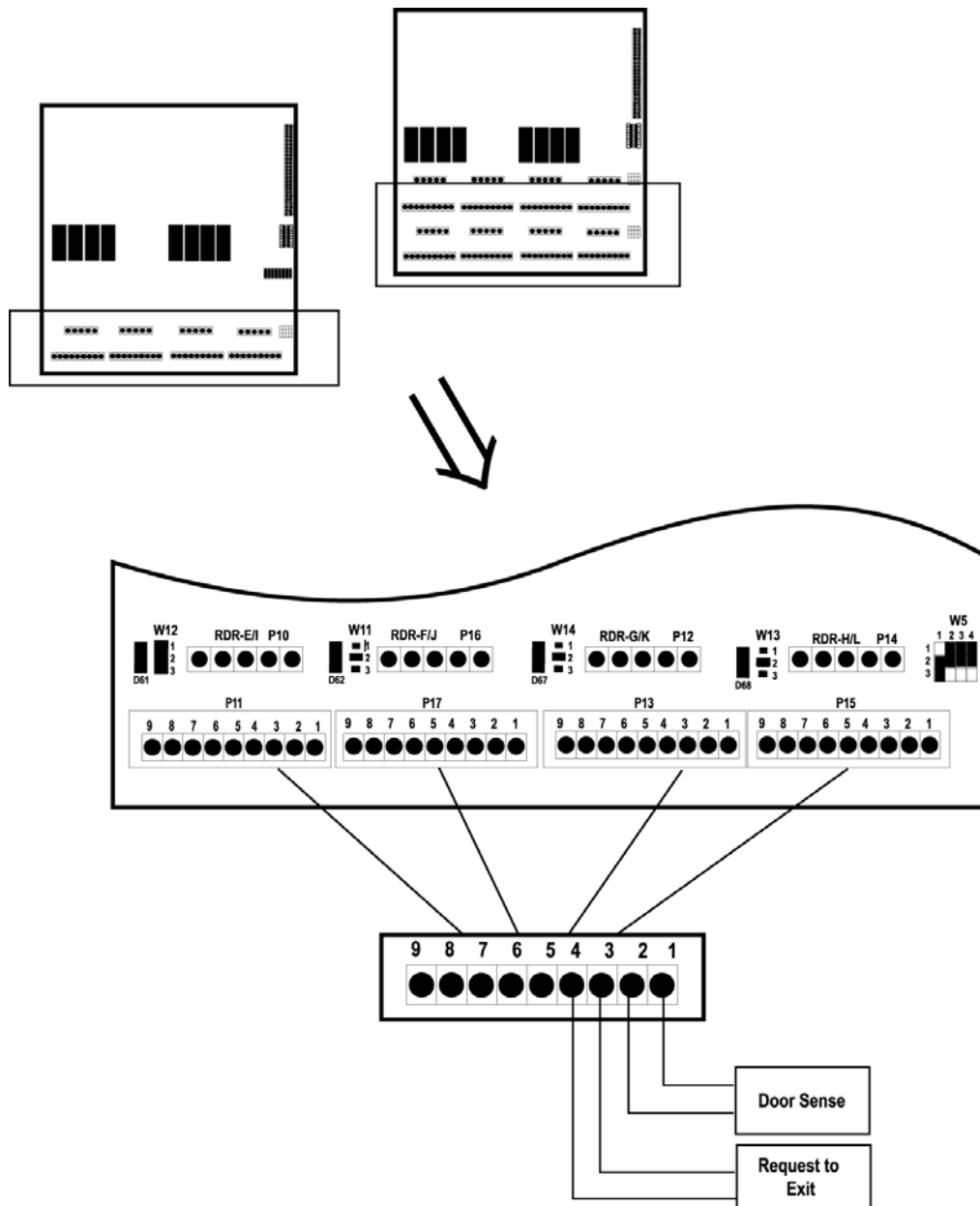
## Unsupervised Tamper Sense Inputs at P18

**NOTE** Resistors must be installed at the alarm device

**NOTE** Resistors are +/- 5% Tolerance @ 1/2 Watt.



## 6.8 Expansion Board Supervised Door Senses and Supervised Request-to-Exit Sense Inputs

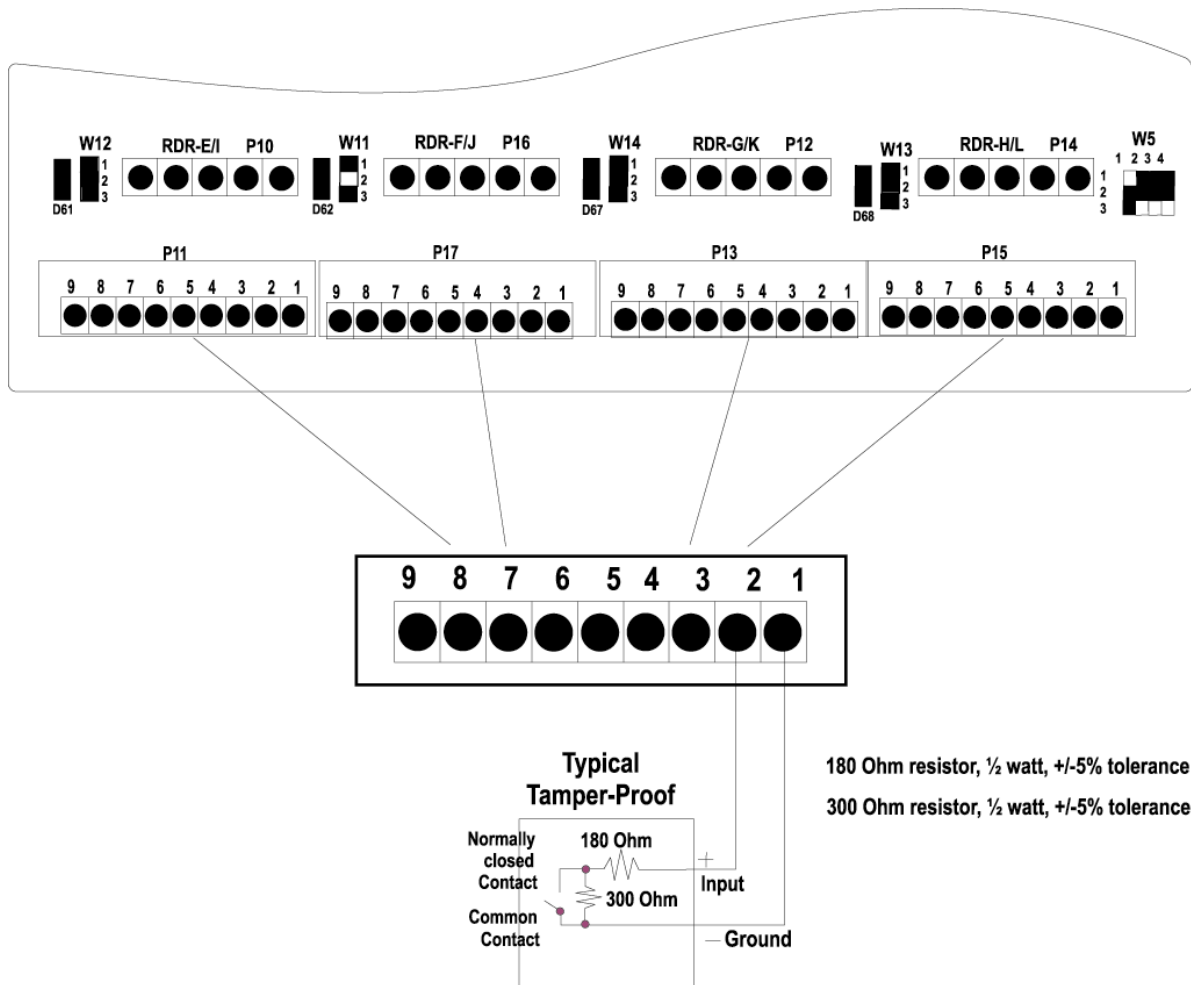


Install End-of-Line resistors at door switch/egress device (not at the IQ Panel end of the cable).

When door is closed, continuously exists across the common (COM) and normally closed (N.C.) door switch contacts.



## 6.9 Expansion Board Supervised Door Sense Locations



Install End-of-Line resistors at door switch/egress device (not at the IQ Panel end of the cable).

When door is closed, continuously exists across the common (COM) and normally closed (N.C.) door switch contacts.

## 6.10 Installing Noise Suppression Devices

To install either an MOV or diode (or both) to suppress noise and avoid problems related to spikes, follow the instructions below and refer to the diagrams on the following pages.

### 6.10.1 Procedure

The most effective location for a suppression device is at the source; in this case, at the door strike.

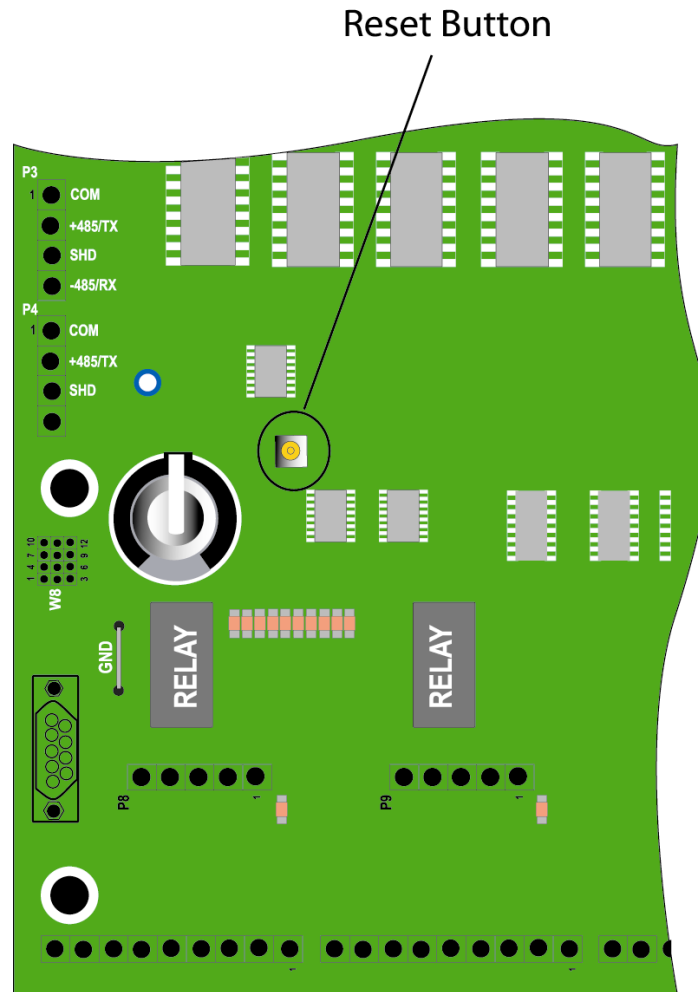
1. Remove the strike-locking device and find the wire connector that attaches the lock wires to the lock.
2. Install an MOV (Siemens S10K30 or equivalent) in parallel with the load. The MOV is a non-polarized device and will work with both AC and DC locks. For further protection on DC units, a reverse biased diode may be installed (We suggest types 1N4004 to 1N4007 be used) also in parallel with the load.

**NOTE** Use an additional MOV if you experience further noise at the strike.

3. Note the wiring set-up of your particular system. Connections can be made either to the “normally open” (fail secure) contact or to the “normally-closed” (fail-safe) configuration whereby an isolation relay is used and a diode (or MOV) is added for noise suppression.

## 7.0 Communicating with the IQ-400

The IQ-400 can communicate over a dialup MODEM, an RS232 or an RS485 serial direct connection or LAN. In a multi-drop IQ-400 configuration, the IQ-400 MUST communicate via RS-485 protocol.



### 7.1 Reset the IQ-400 Panel

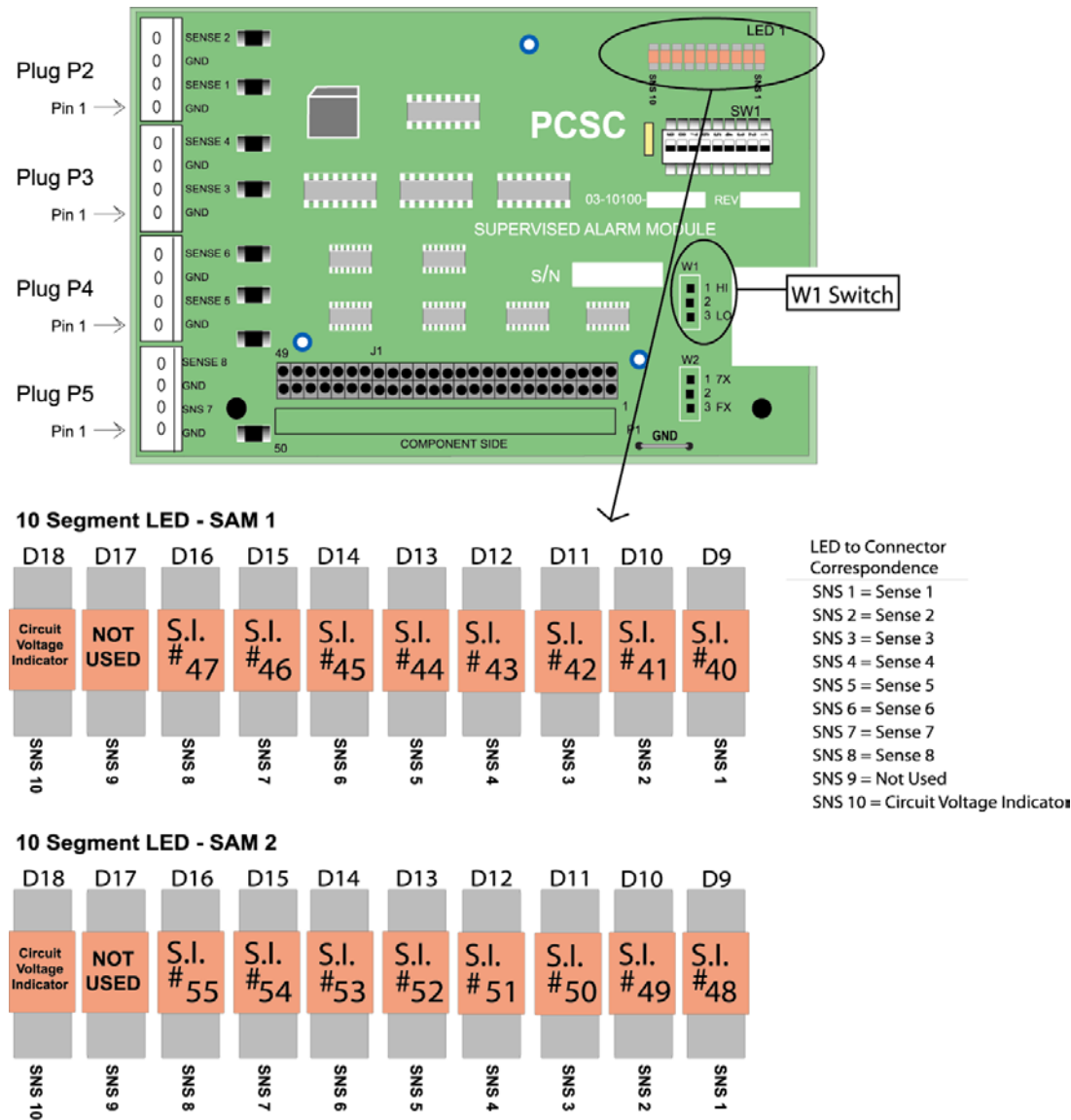
You may elect to install the supervisory resistors at this time or optionally wait until after on-line communication has been established to the LiNC-NET Host PC. Set dipswitches 1-8 (located at SW1) to **OFF** position as it is etched on the IQ-400 PCB. Hit the reset switch at S1. This will calibrate and reset data to default, all 14 of the supervised inputs on the IQ-400 PCB and the supervised Door Senses on the 4/8-Door Cluster PCBs.

7.2 Calibrating the IQ-400 Panel

Calibration Scan

Please check the LiNC-NET Calibrations Options page on the LiNC-NET Administrator Manual.

SAM sense inputs are calibrated only by toggling switch #3 of SW-1 on each SAM PCB.



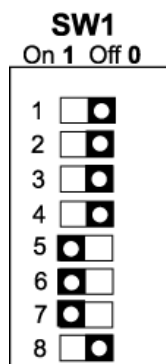
### 7.3.1 Dipswitching the IQ-400 Address (1-111)

[illegible]

### 7.3.2 Software Addressing the IQ-400 Panel (Panels 112-200) Direct Connect

If a user set up includes more than 111 panels, it is necessary to address the panel through the LiNC-NET software as opposed to the Dipswitch on the panel itself. Every panel from 112 – 200 is manually set to 112, and then given a software address via LiNC-NET.

1. Set SW1 to address 112 on the IQ-400 panel and press the S1 button. The Dipswitch setting is: 5, 6, 7 = ON and 1, 2, 3, 4, 8 =OFF.
2. Open the ConFigUL program and define the following:
  - Connection Type (**Direct Connect** or **LAN**)
  - COM port
  - Baud rate
3. Select the OPEN port button = **Open Port OK**
4. Enter **Panel #1** into the “**current panel number**” field.
5. Select the “**Inquire**” button = **OK**
6. Select the “**Logon**” button = **OK**
7. Enter the desired panel address from **112 – 200** in “New Panel number” window.
8. Select the “**change number**” button = **OK**
9. Select the “**Who’s there**” button. The Inquire field will scan for the new panel address. (Who’s There=200)
10. Select the “**Logoff**” button = **OK** then select “**Close Port**” and exit.
11. Start LiNC-NET and “**add**” the new panel ID number to your database.



Set # 5,6,7 to  
ON (left),

Set # 1,2,3,4,  
and 8 to OFF  
(right)

**NOTE** Switch #8 is used to determine if the IQ-400 communicates via either direct connect or dial-up communications. Switch #8 is only used to determine if the connection is **Direct Connect** or **AutoDial**.

The **ON/OFF** designation is in reference to the labels printed on the IQ-400 PCB. Not the switch itself!

## 7.4 Setting MODEM or Direct Connect Configurations

PCSC supports the US Robotics 33.6/56K Sportster model for MODEM communication. It is recommended that the MODEM be powered up via an U.P.S. (Uninterruptible Power Supply).

To set up the IQ-400 for **MODEM** communication, configure the Dipswitch settings at SW1, as follows:

### Example: MODEM connection (IQ-400, panel address is #1)

SW1  
On 1 Off 0

1	<input checked="" type="checkbox"/>	<p>Set # 1 to ON (left), 2 through 7 to OFF (right). Set # 8 to ON (left).</p> <p>Set the configuration and press the Reset button at S1. After the sequence of LEDs displays, set the IQ-400 ID number (see DIP Switching the IQ-400 Number). On the back of the <b>US Robotics modem</b>, locate the DIP switch. Set 1, 5 and 6 in the <b>up</b> position and 2, 3, 4, 7 and 8 in the <b>down</b> position.</p>
2	<input type="checkbox"/>	
3	<input type="checkbox"/>	
4	<input type="checkbox"/>	
5	<input type="checkbox"/>	
6	<input type="checkbox"/>	
7	<input type="checkbox"/>	
8	<input checked="" type="checkbox"/>	

**NOTE** AT SW1, switch #8 must remain in the ON position (left) for **MODEM** communication.

To set up the IQ-400 for **direct connect** communication (default), configure the Dipswitch settings at SW1, as follows:

### Example: Direct connection (IQ-400, Panel address is #1)

SW1  
On 1 Off 0

1	<input checked="" type="checkbox"/>	<p>Set # 1 to ON (left), 2 through 8 to OFF (right).</p> <p>Set the configuration and press the Reset button at S1. After the reset, set the IQ-400 ID number (see DIP Switching the IQ-400 Number).</p>
2	<input type="checkbox"/>	
3	<input type="checkbox"/>	
4	<input type="checkbox"/>	
5	<input type="checkbox"/>	
6	<input type="checkbox"/>	
7	<input type="checkbox"/>	
8	<input type="checkbox"/>	

**NOTE** At SW1, switch #8 must remain in the OFF position (right) for **Direct Connect** communication.

To communicate from an IQ-400 to the MODEM, two cables must be fabricated: one from the MODEM to the IQ-400 and another for the PC host to the MODEM. See the diagrams under Cable Requirements.

**NOTE** The **ON/OFF** designation is in reference to the labels printed on the IQ-400 PCB. Not the switch itself!

### 7.4.1 Ensuring Proper Configuration of the MODEM

To ensure that the MODEM retains the set configuration, the user should utilize HyperTerminal at the Host PC. The HyperTerminal program will set the configuration in the MODEM for constant uninterrupted use with the IQ-400. In the following procedure, the Init String will be written into the NOVRAM and therefore a power loss to the MODEM ONLY will not result in a continuous loop.

- Set switches 1, 5, 6, and 7 in the U.S Robotics Sportster MODEM (14.4K, 28.8, 33.6, or 56K) to **Up**. All other switches should be **Down**.
- Connect the MODEM to the PC using a standard PC to MODEM cable.
- From the PC (Win95/98/NT) access HyperTerminal by entering the following commands:
  1. Click on **Start: Programs: Accessories**, and then, **HyperTerminal**. The **Connection Description** dialog box will now appear.
  2. Type in a name for the connection (for example: **MODEM TEST**). Click on a corresponding icon from the list. Click on the **OK** button.
  3. The **Connect To** dialog box will now appear. The proper communications port used to communicate to the external MODEM is now selected within the **Connect Using** field (for example: **COM2**). Click on the **OK** button.
  4. The **COM# Properties** dialog box will now appear. Select **9600** in the bits per second field. Select **8** in the **Data Bits** field, **None** in the **Parity** field, **1** in the **Stop Bits** field, and **Hardware** in the **Flow control** field. Click on the **OK** button. The screen will now clear and the cursor will be at the top left corner of the **HyperTerminal** window. Type **ATV1 E1** and press **Enter**. The MODEM will respond with **OK**.
  5. Type **ATI3** and press **Enter** to display the type of MODEM connected, followed by **OK**.
  6. Type **ATI4** and press **Enter** to display the MODEM's current settings, followed by **OK**.
  7. Type **ATI5** and press **Enter** to display the MODEM's NVRAM settings, including any stored telephone numbers, followed by **OK**.
  8. Type **ATEVQHSØ=1X&DØ** and press **Enter**. The MODEM will respond by changing the **A** in the previous String to a **Ø** (zero).
  9. Type **AT&WØYØ** and press **Enter**. No visual indication will be displayed as the MODEM was configured in the previous step to use **Numeric Result Codes**.
  10. Type **ATZ** and press **Enter**. As in the previous step, no visual indication will be displayed.
  11. Click on **File**, then **Save**, to save the configuration file.
  12. Click on **File**, **Exit**, then **Yes**, to disconnect from the MODEM and exit **HyperTerminal**.
  13. Power down the MODEM and turn switch **1**, **5**, and **6** up. All others should be down. Connect the MODEM to the IQ-400. Perform functional testing.

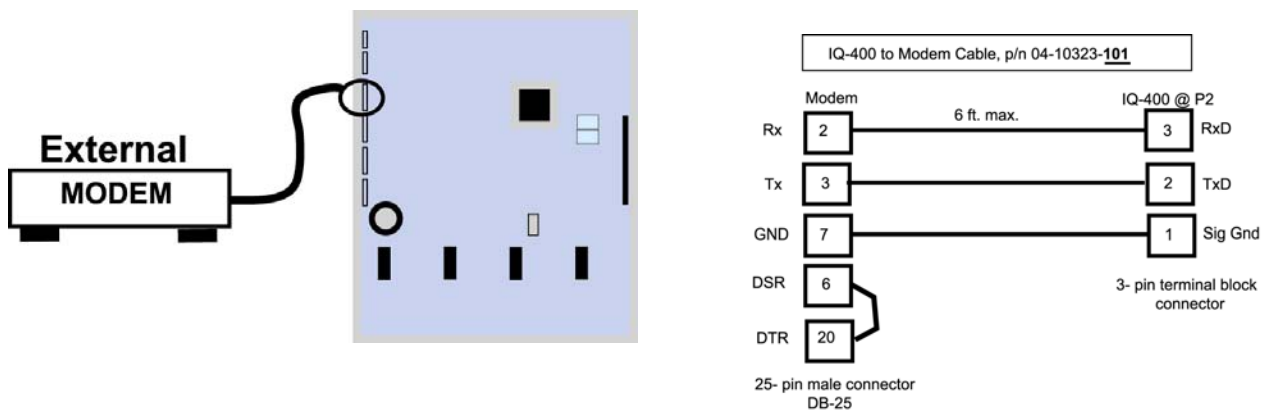
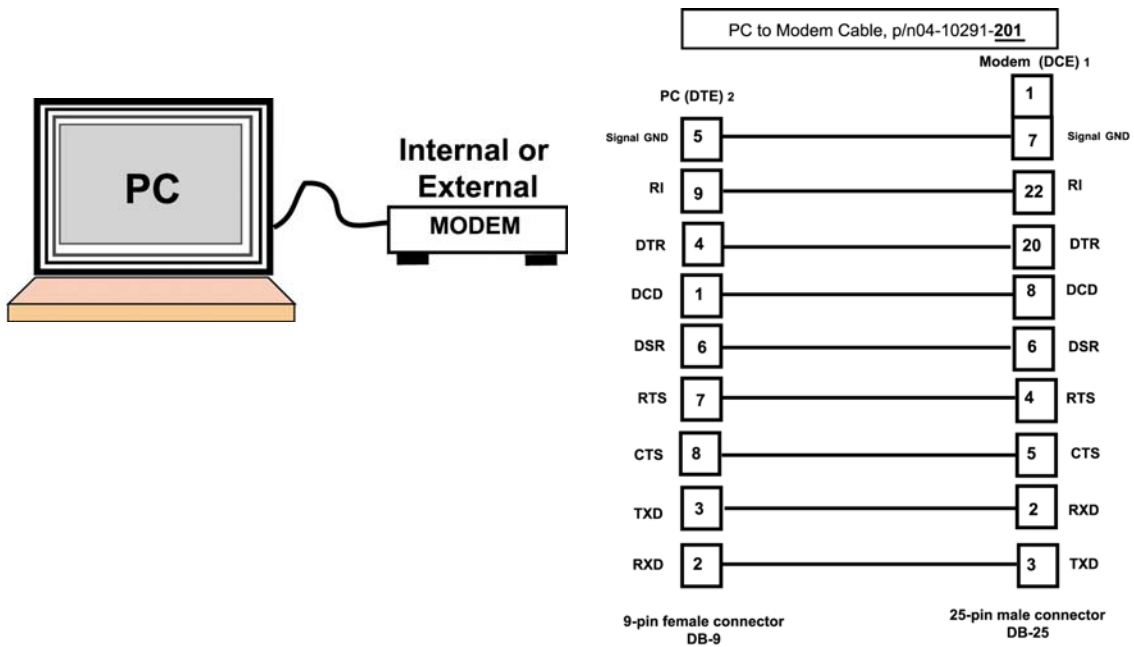


## 7.4.2 Establishing a Proper Connection with a MODEM Cable

To communicate from an IQ-400 to a MODEM, two cables must be fabricated: one from the MODEM to the IQ-400 and another for the PC host to the MODEM. Cabling should be 22 AWG, 9-conductor, UL2576 and up to 6 feet in length.

**NOTE:** PCSC performs Autodial Testing with US Robotics Sportster (Internal and External) 33.6 Fax Modems.

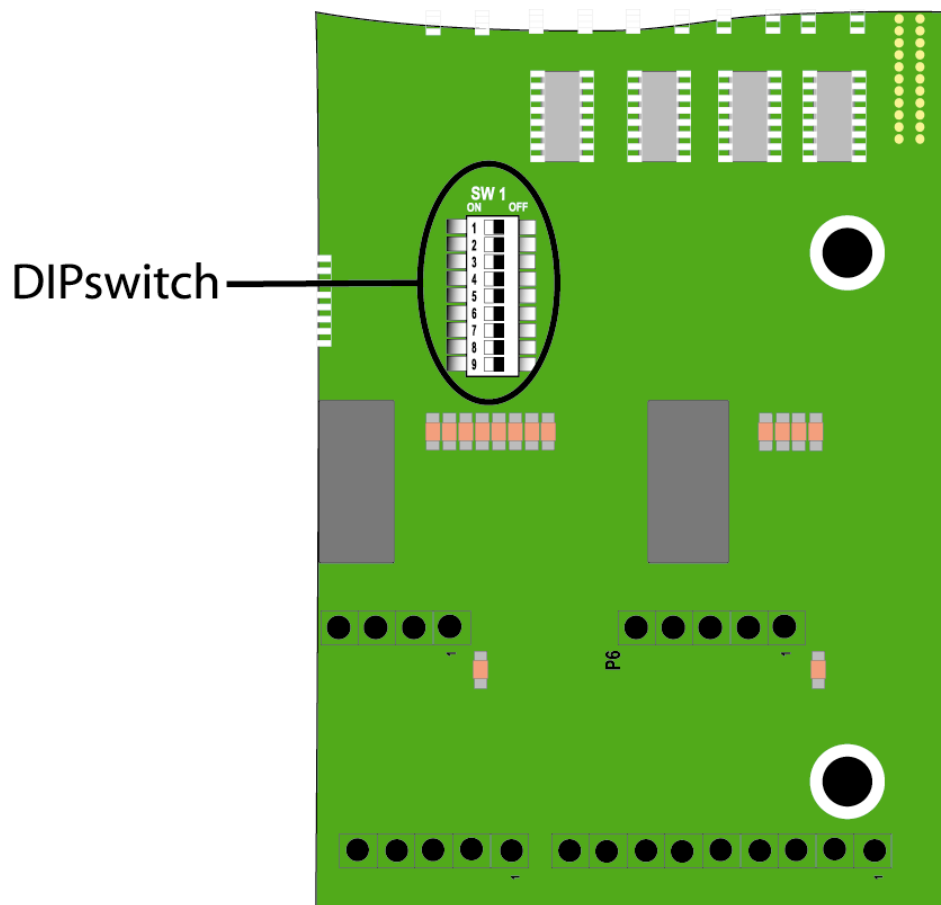
See the following diagrams:



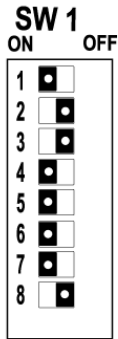
## 7.5 Changing the Baud Rate

1. Request the IQ-400 off-line in the **Define Panel Online Status** screen in the LiNC-NET software.
2. Change the baud rate in the **Host Computer Setup** menu in the LiNC-NET Software.
3. Log off and back onto the system.
4. Set the switch (SW1) setting for the Baud rate and press the S1 Reset button. (Refer to page 58).
5. Change the SW1 switch setting back to the IQ-400 number.
6. Request the IQ-400 on-line in the Define Micro-LPM status screen in the LiNC-NET software.

**NOTE** Presently the IQ-400 only supports communication at 9600 BPS.



### Setting the Baud Rate for Direct Connect @ 9600 bps

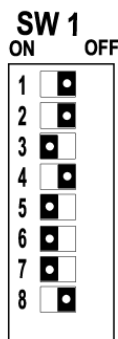


Set switches as illustrated to the left at SW-1 and then push the Reset button S1.

Then place the SW-1 in position to represent the Communications Address of the panel.

Push the Reset button S1. The Panel is now ready to communicate to the LiNC-NET host at the new baud rate.

### Setting the Baud Rate for Direct Connect @ 4800 bps

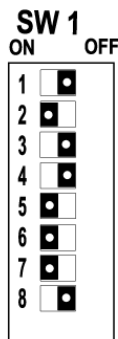


Set switches as illustrated to the left at SW-1 and then push the Reset button S1.

Then place the SW-1 in position to represent the Communications Address of the panel.

Push the Reset button S1. The Panel is now ready to communicate to the LiNC-NET host at the new baud rate.

### Setting the Baud Rate for Direct Connect @ 2400 bps

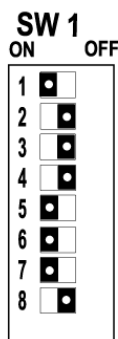


Set switches as illustrated to the left at SW-1 and then push the Reset button S1.

Then place the SW-1 in position to represent the Communications Address of the panel.

Push the Reset button S1. The Panel is now ready to communicate to the LiNC-NET host at the new baud rate.

### Setting the Baud Rate for Direct Connect @ 1200 bps



Set switches as illustrated to the left at SW-1 and then push the Reset button S1.

Then place the SW-1 in position to represent the Communications Address of the panel.

Push the Reset button S1. The Panel is now ready to communicate to the LiNC-NET host at the new baud rate.

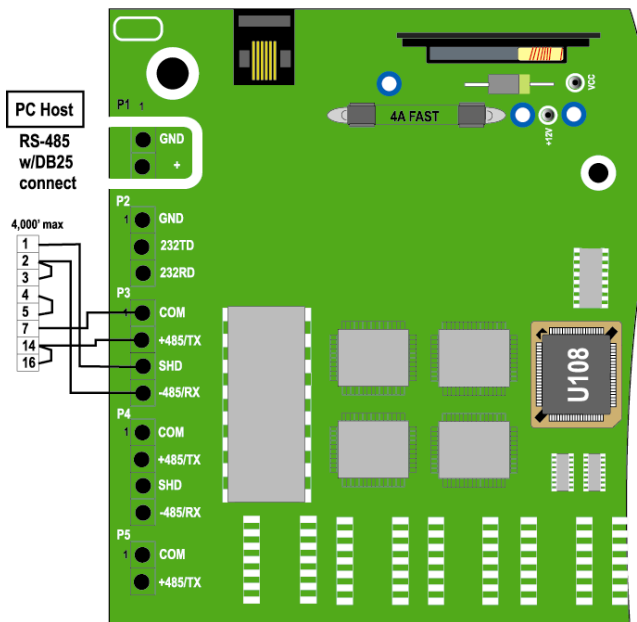
## 7.6 Direct Connecting with One IQ-400

The PC Host is connected to the IQ-400 by means of a cable designed for either RS-485 or RS-232 communication. The following diagrams illustrate the RS-485 and RS-232 DB9 or DB25 connectors options available.

### Wiring Diagram- IQ-400 to PC, RS-485 Connector

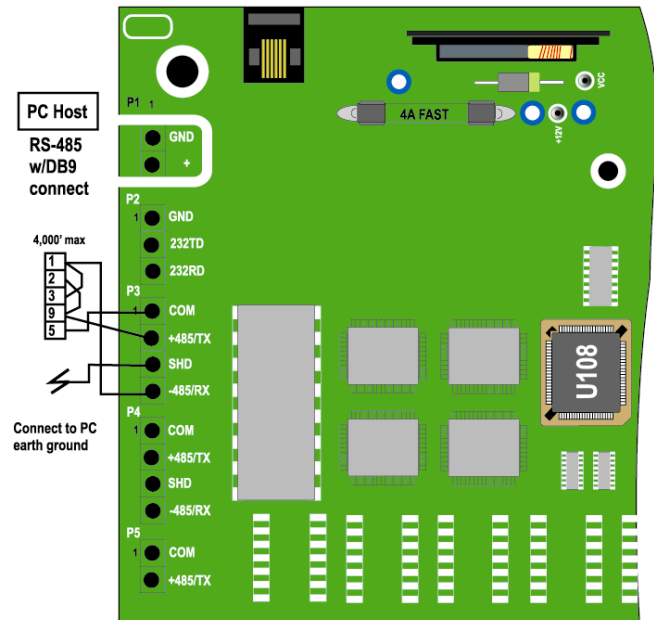
#### w/ DB25 Connector

PCSC P/N: 04-10322-101

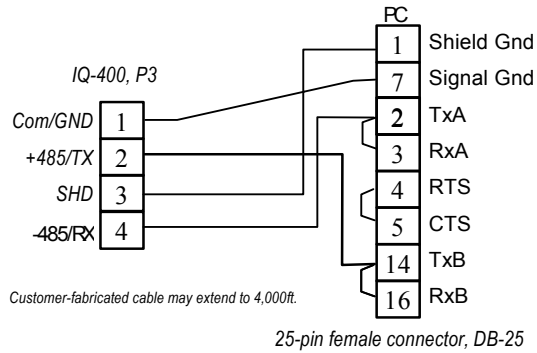


#### w/ DB9 Connector

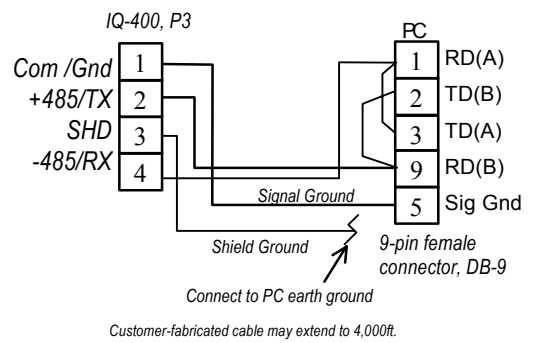
PCSC P/N: 04-10322-001



**IQ-400 to PC, RS-485 w/ DB25  
Connector, Optically Isolated,  
PCSC P/N 04-10322-101**

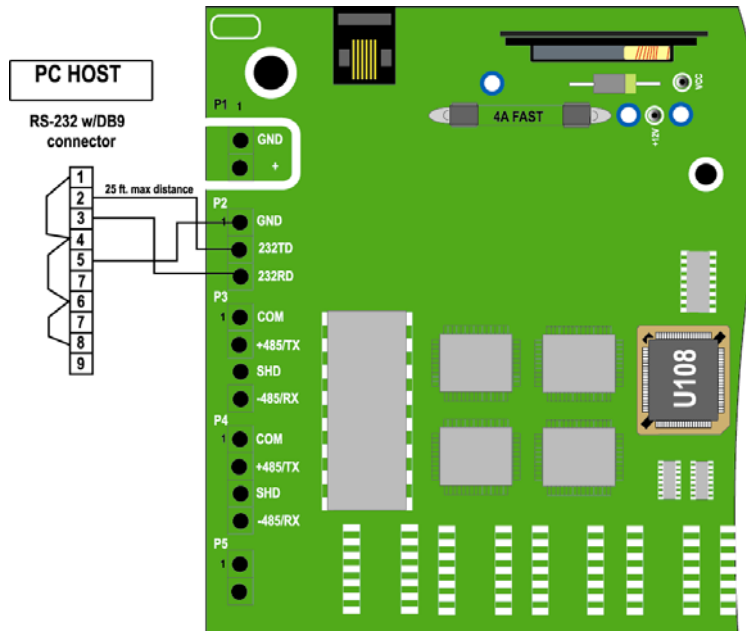


**IQ-400 to PC, RS-485 w/ DB9  
Connector, Optically Isolated,  
PCSC P/N 04-10322-001**



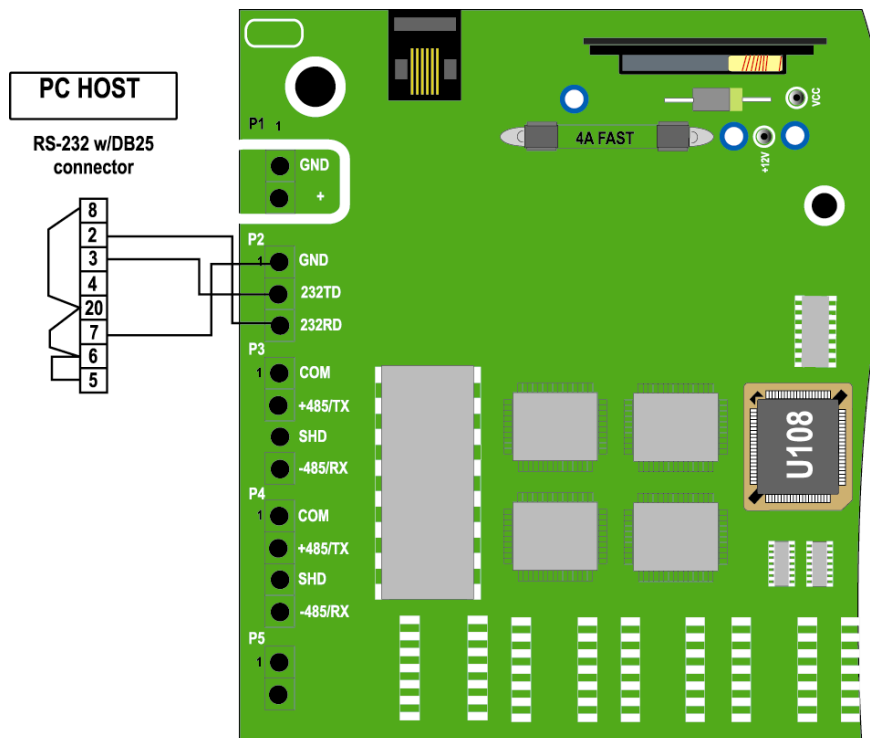
### 7.6.1 Wiring Diagram- IQ-400 to PC, RS-232 w/DB9 Connector

PCSC P/N: 04-10318-101



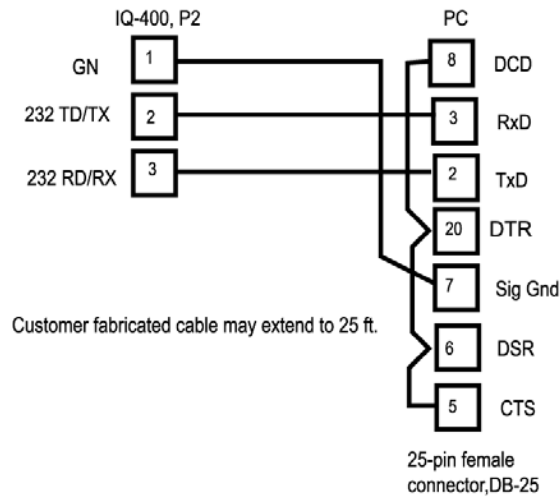
### 7.6.2 Wiring Diagram – IQ 400 to PC, RS -232 w/ DB25 Connector

PCSC P/N: 04-10318-001

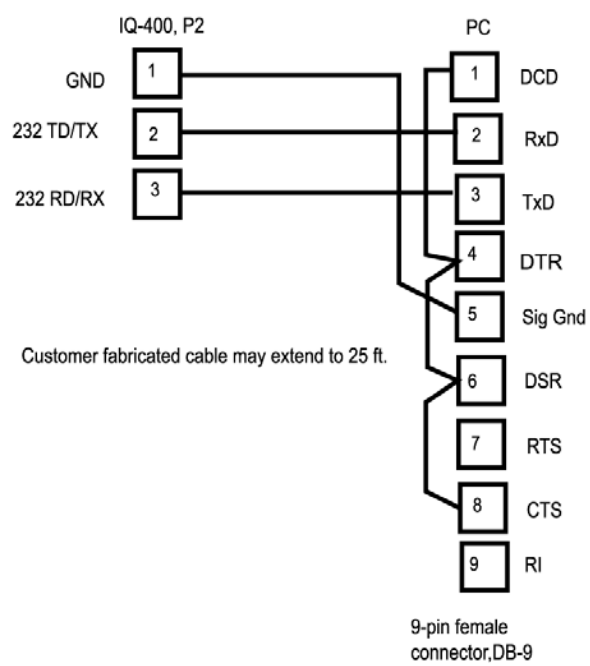


## 7.7 RS-232 Cable Connections

**IQ-400 to PC, Cable RS-232  
w/DB25 Connector  
PCSC p/n 04-10318-101**



**IQ-400 to PC Cable RS-232  
w/DB9 Connector  
PCSC p/n 04-10318-001**

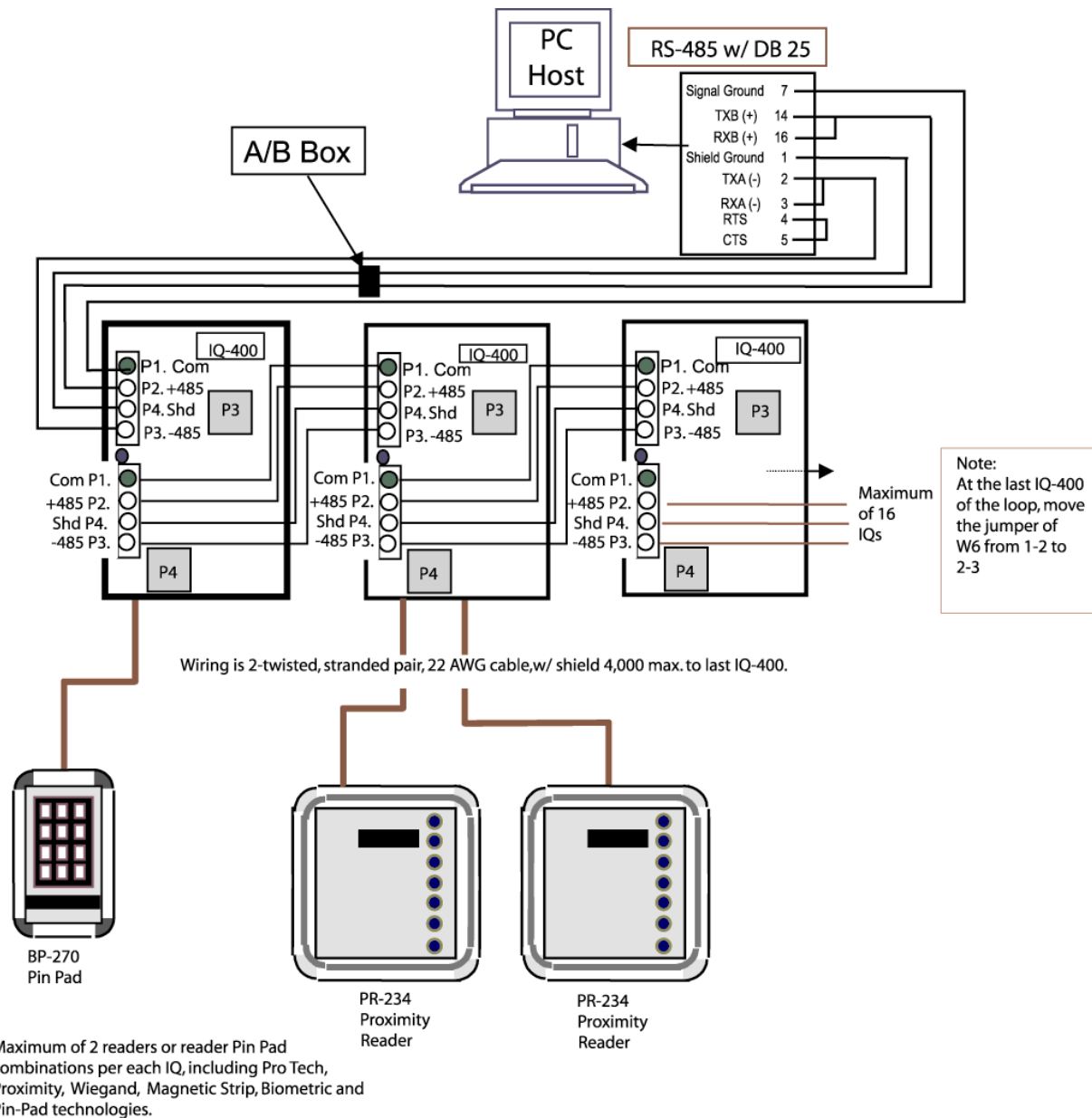


**NOTE:** For UL 1076 requirements, the RS-232 cable shall not extend beyond 20 ft., and the cable shall stay within the same room.

## 7.8 Communicating with Multiple IQ-400s (via RS-485)

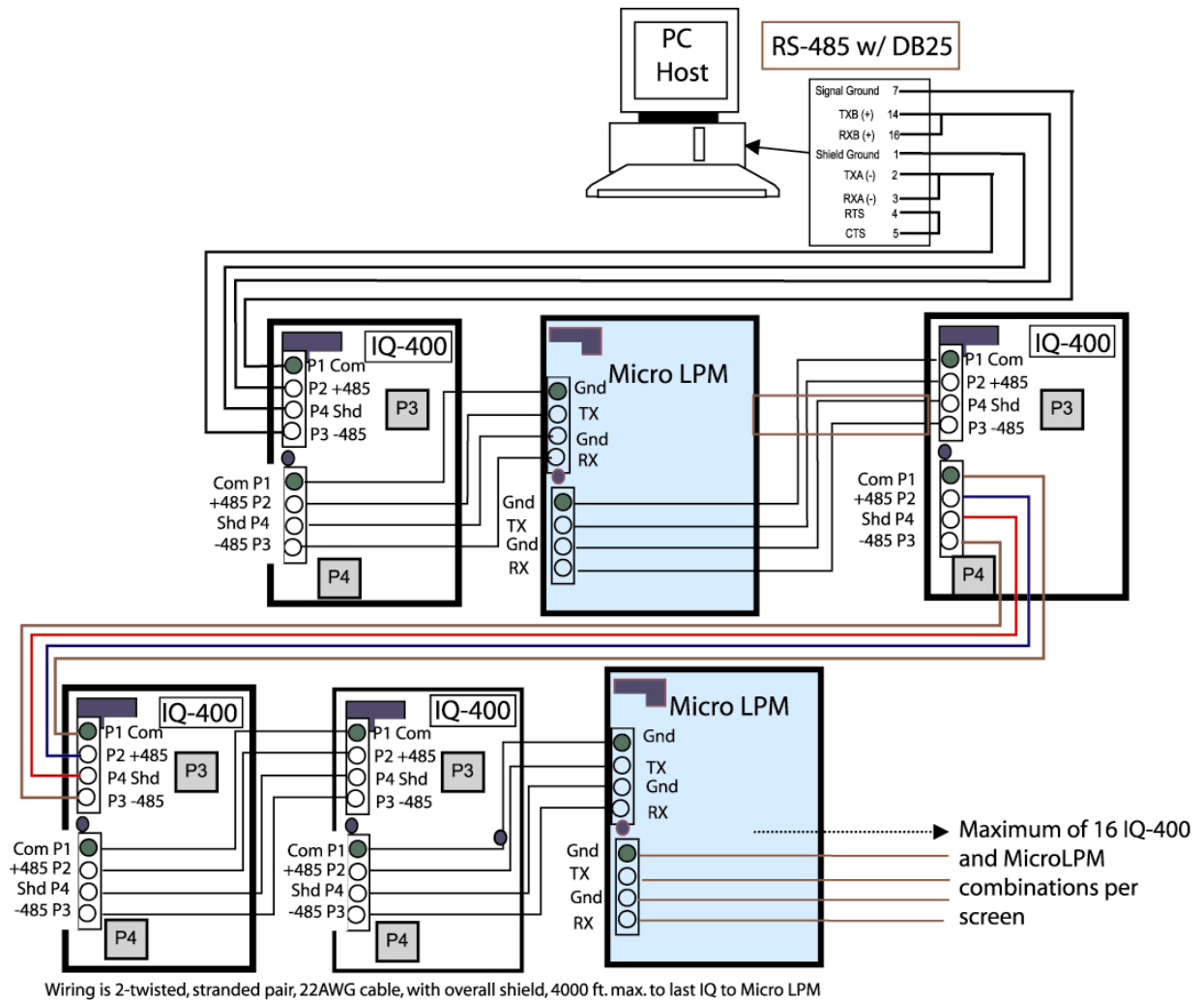
Once the PC host is connected to one IQ-400, the next IQ-400 can be connected by wiring from P3 from the first IQ-400 to P4 in the next IQ-400. This format can be repeated in up to 16 IQ-400s. In addition, any combination of MicroLPMs and IQ-400s can be configured up to the 16 total limit on a single RS485 channel. LINC-NET supports up to 4 channels (total of 64 IQ-400/MicroLPMs). See the next page for the IQ-400 to MicroLPM wiring connection.

### 7.8.1 Wiring Diagram of Multiple IQ-400s





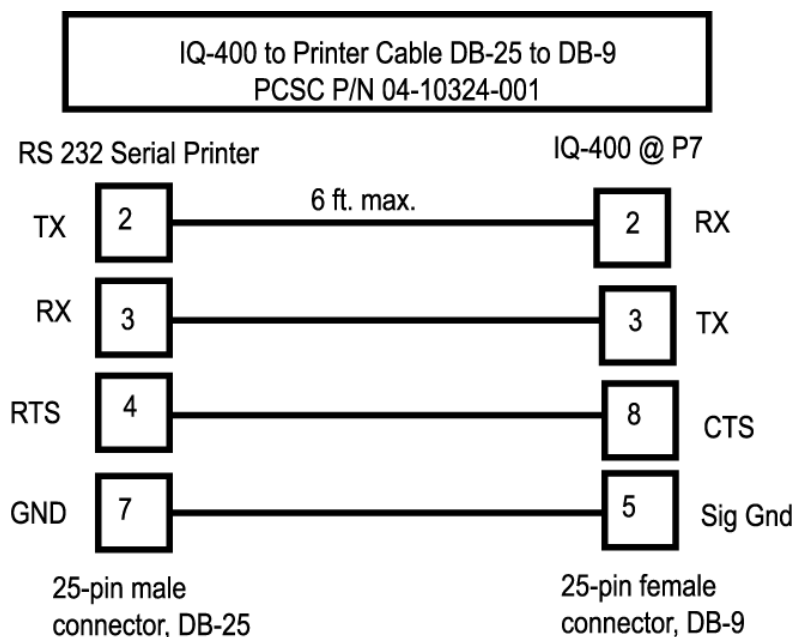
## 7.8.2 Wiring Diagram of Multiple IQ-400s and MicroLPMs



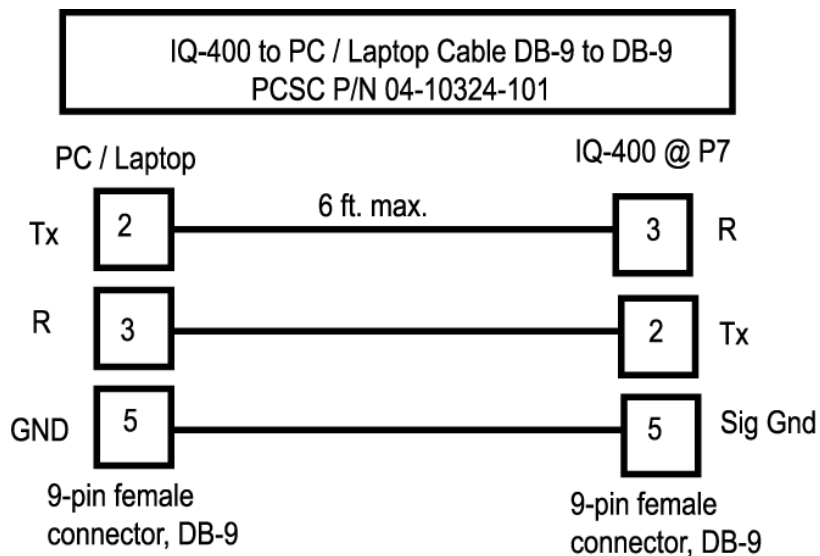
**NOTE** At the last panel in the loop ( if a Micro LPM) install a 120 Ohm 1/2 watt Resistor at Plug P3 between pins 2 and 4.  
Or (if the last panel is an IQ ) set Jumper at W6 across pins 2 and 3.  
Refer to Micro LPM Installation Manual P/N: 33-10019-001 for more information.

## 7.9 Real Time Serial Printing with the IQ-400

To print from an IQ-400, a cable must be fabricated: a 9-pin female connector at the IQ-400-end to either a 9-pin or 25-pin male connector at the printer end. Cabling should be 22 AWG, 2-twisted pair, and up to 6 feet in length. See the following diagrams. The baud rate for the printer is 9600 bits per second at the IQ-400. Connect the IQ-400 end of the cable to P7.



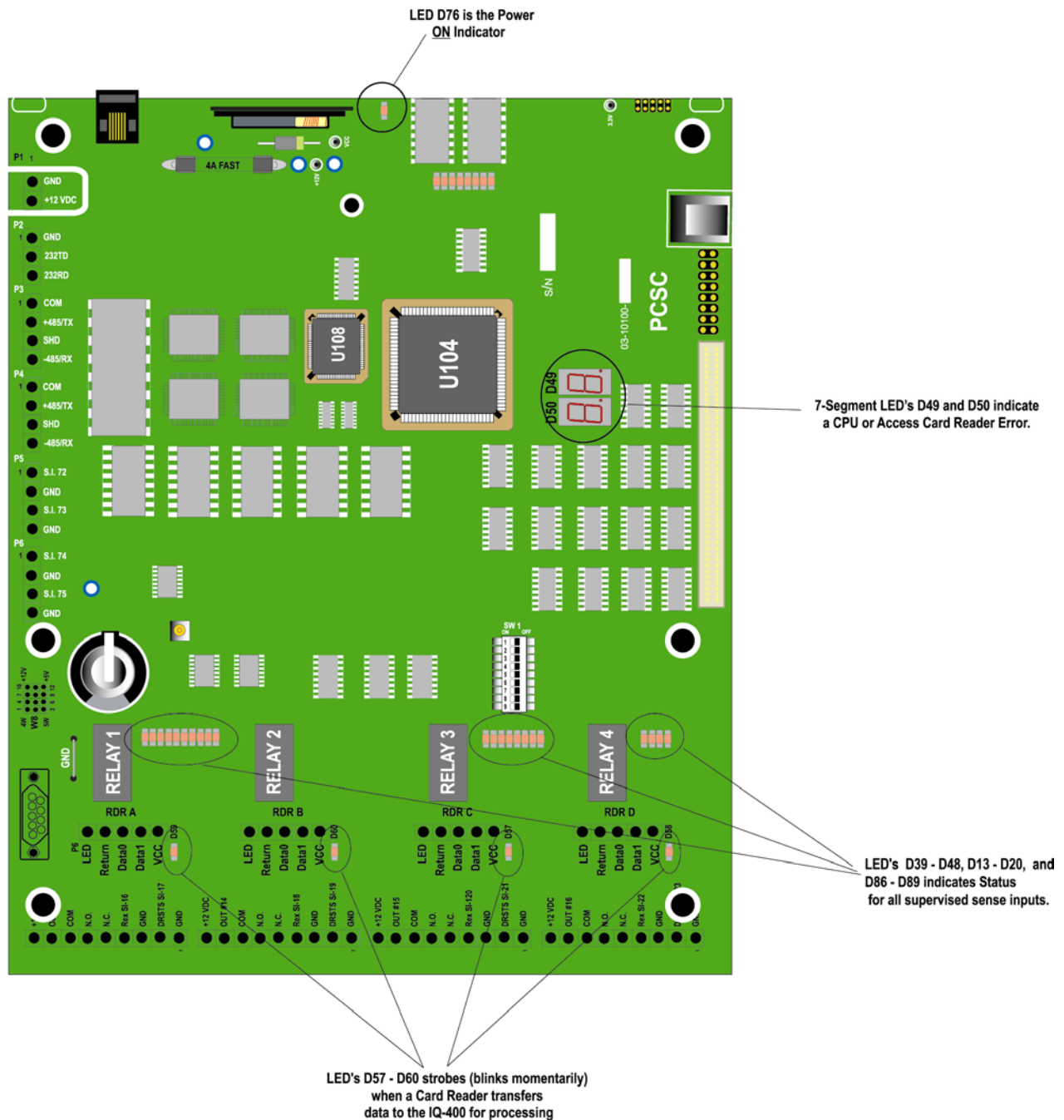
### Cable Configuration for Capturing Real Time Transactions to PC in HyperTerminal



## 8.0 Status Lights and Dealing with Communication Errors

### 8.1 Status Lights

The IQ-400 circuit board has multiple LEDs. The status of the LED defines a certain activity or phase of IQ-400 functions. Card processing and door sense status is also indicated by the LEDs.



## 8.2 Communication Errors

### Message at the PC

### What to Do

IQ-400 is not responsive

Verify the following:

1. The red DC Power Indicator LED (D2) is ON.
2. Verify that the ID number corresponds to the IQ-400 at the PC. (Check settings of switches at SW1).
3. Check cabling. (RS232/MODEM/RS485/Terminal Server).
4. Remove the Battery for 5 minutes. Reinsert battery and restart IQ-400 panel.

### 8.2.1 LED Fatal Error Display Codes

(Please **CALL** your PCSC representative.)

- |    |   |
|----|---|
| E1 | ROM error detected- Probable PCB failure.   |
| E2 | RAM error detected- Probable PCB failure. Verify that the IC at <u>U108</u> is seated properly. |
| E4 | Packet addressing error- IQ-400 failure   |
| E5 | Packet queuing error- IQ-400 failure.   |
| E7 | Terminal number configuration error- Readdress IQ-400.  |
| ED | Database invalid- <b>RESET</b> and configure IQ-400 address                                     |
| EE | Stray jump- Probable IQ-400 PCB failure.  |
| EF | Execution of int vector- Probable IQ-400 PCB failure.   |

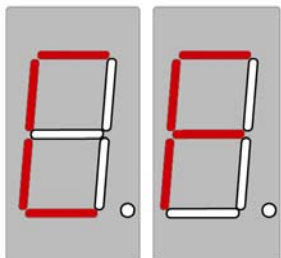
## 8.2.2 Error Codes

The seven-segment LEDs, D49 and D50, will indicate certain errors that can occur when processing cards. They also can communicate "fatal" errors that could occur. The following chart describes different error codes that are displayed by the seven-segment LEDs:

<u>D Warning Error</u>	<u>Display Codes</u>	<u>Possible Problem</u>	<u>What to Do</u>
C0 Card Error:	Parity check fail	Bad Card or dirty reader head	Clean reader head and re-try
C1 Card Error:	LRC check failed	Bad Card or dirty reader head	Clean reader head and re-try
C5 Card Error:	data length mismatch	Check for correct format type	Verify that the correct reader technology is specified
CC Card Error:	data conversion	Check for correct format type	Verify that the correct reader technology is specified
CE Card Error:	end-code not found	Bad card or dirty reader head	Clean reader head and re-try
CF Card Error:	facility code	The site code is invalid for this site	Load correct facility code or check cards
EC Hardware	Configuration error	The IQ-400 is not configured correctly	In LiNC-NET for Windows, select the Panel Setup icon and the Hardware file-tab to verify that the extension adapters are selected for this IQ-400.

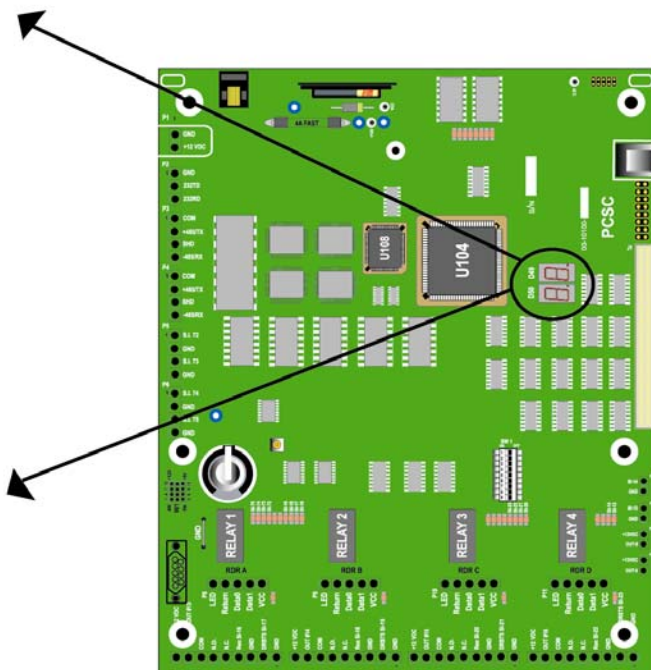
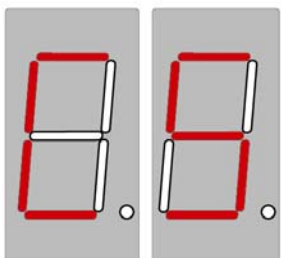
### Example #1 Error Code "CF"

D50 D49

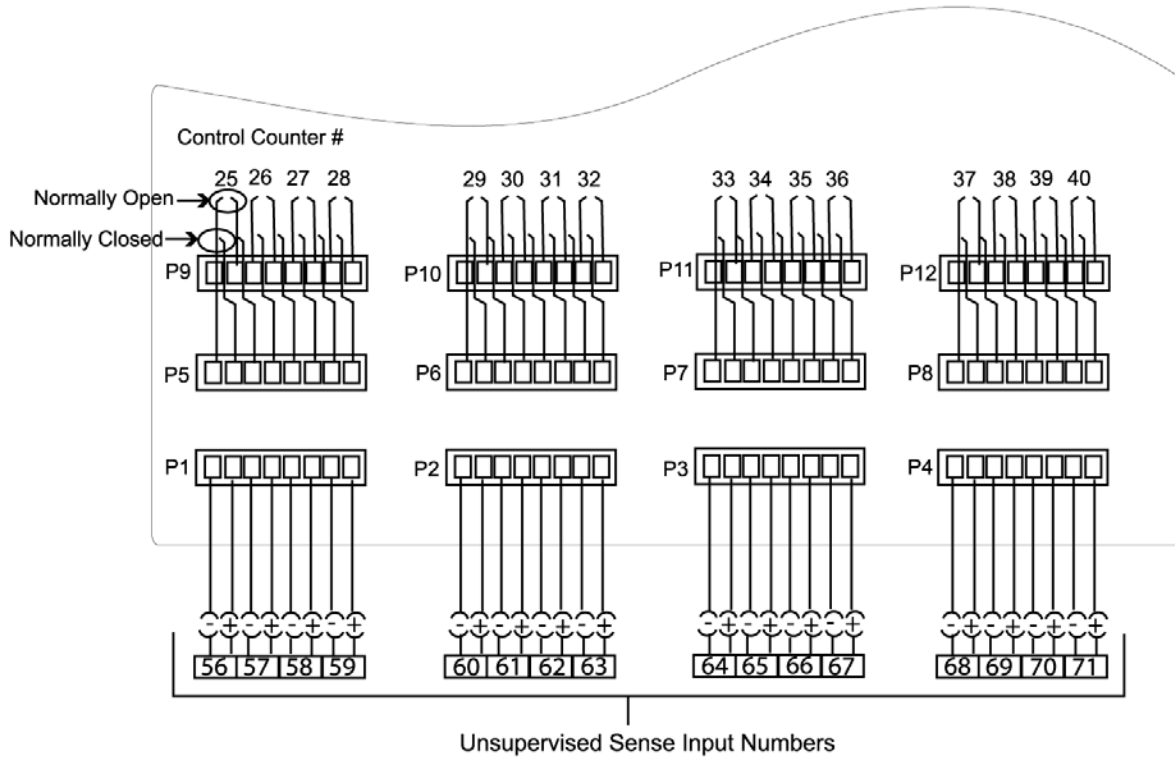


### Example #2 Error Code "C5"

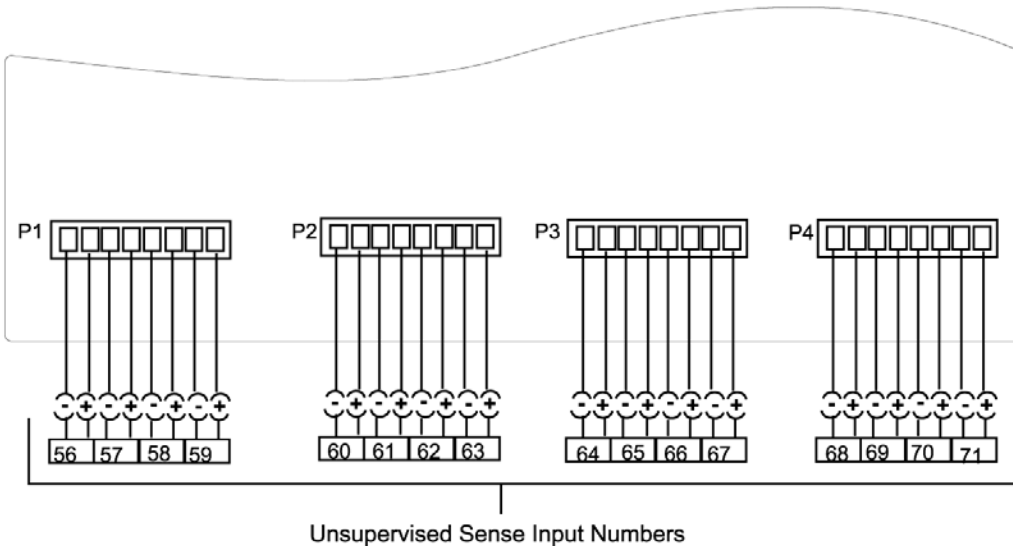
D50 D49



## Control Counters and Sense Input Numbers for Output Control PCB P/N 03-10032-201

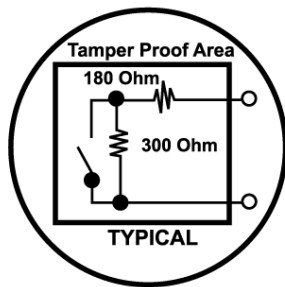
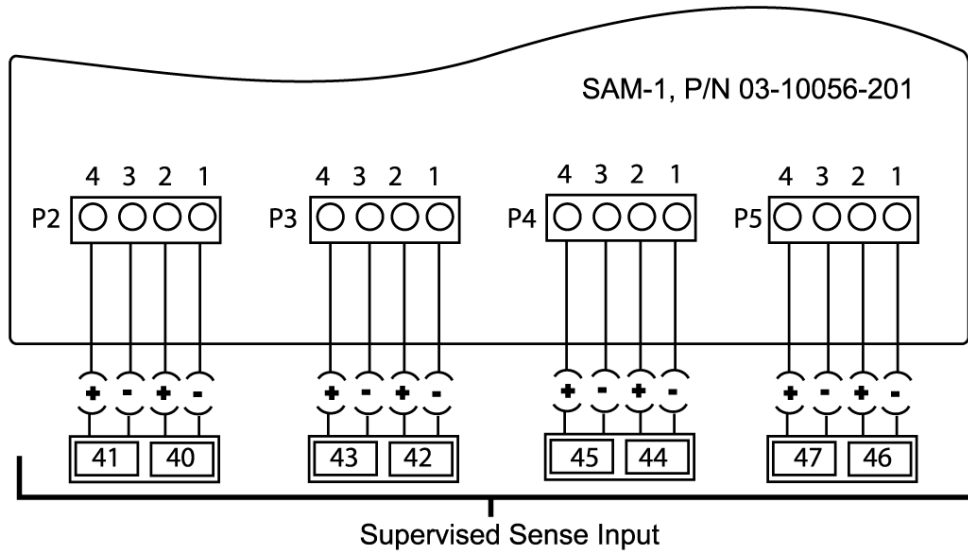


## Sense Input Numbers for ALM (ALarm Monitor) PCB P/N 03-10032-301

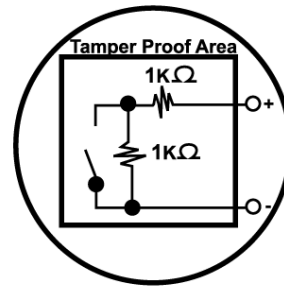


**NOTE** Addressing of the Output/ALM PCB is done via switch SW-1. All eight switches should be in the OFF (0) position. Also, Jumper P-14 should be across pins #1 and #2 (LO PCB Address Range)

## Sense Input Numbers on the Supervised Alarm Module

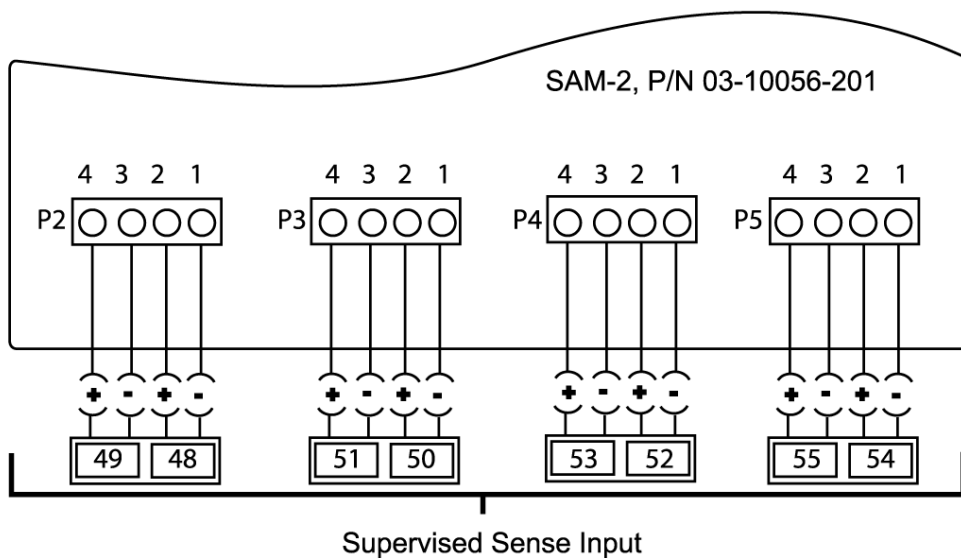


+ Input  
- Grd  
 $180\Omega \times 300\Omega$   
1/2 Watt Resistors  
+/- 5% Tolerance



$1k\Omega \times 1k\Omega$   
1/2 Watt Resistors  
+/- 5% Tolerance

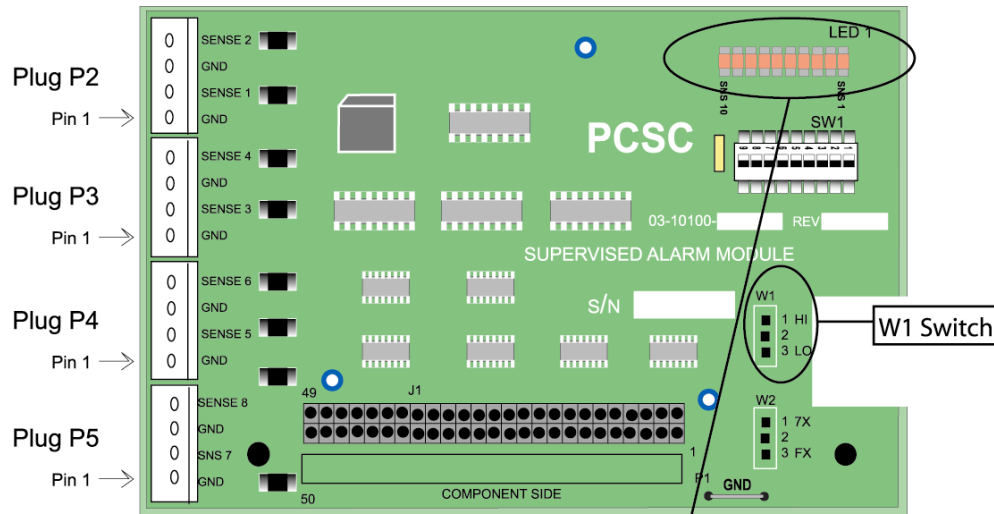
NOTE: Panels SAM 1 and SAM 2 are calibrated by toggling switch #3 at SW - 1 on each panel.



## 8.4 Proper Setting of SAM 1 and SAM 2

In a system that uses SAM 1 as a stand-alone, the W1 switch must be set to LOW (Pins 2-3).

In a system that uses both SAM 1 and SAM 2 together, SAM 1 needs to be set to LOW (Pins 2-3) and SAM 2 needs to be set to HIGH (Pins 1-2).



### 10 Segment LED - SAM 1

D18	D17	D16	D15	D14	D13	D12	D11	D10	D9
Circuit Voltage Indicator	NOT USED	S.I. #47	S.I. #46	S.I. #45	S.I. #44	S.I. #43	S.I. #42	S.I. #41	S.I. #40
SNS 10	SNS 9	SNS 8	SNS 7	SNS 6	SNS 5	SNS 4	SNS 3	SNS 2	SNS 1

### LED to Connector Correspondence

SNS 1 = Sense 1  
 SNS 2 = Sense 2  
 SNS 3 = Sense 3  
 SNS 4 = Sense 4  
 SNS 5 = Sense 5  
 SNS 6 = Sense 6  
 SNS 7 = Sense 7  
 SNS 8 = Sense 8  
 SNS 9 = Not Used  
 SNS 10 = Circuit Voltage Indicator

### 10 Segment LED - SAM 2

D18	D17	D16	D15	D14	D13	D12	D11	D10	D9
Circuit Voltage Indicator	NOT USED	S.I. #55	S.I. #54	S.I. #53	S.I. #52	S.I. #51	S.I. #50	S.I. #49	S.I. #48
SNS 10	SNS 9	SNS 8	SNS 7	SNS 6	SNS 5	SNS 4	SNS 3	SNS 2	SNS 1



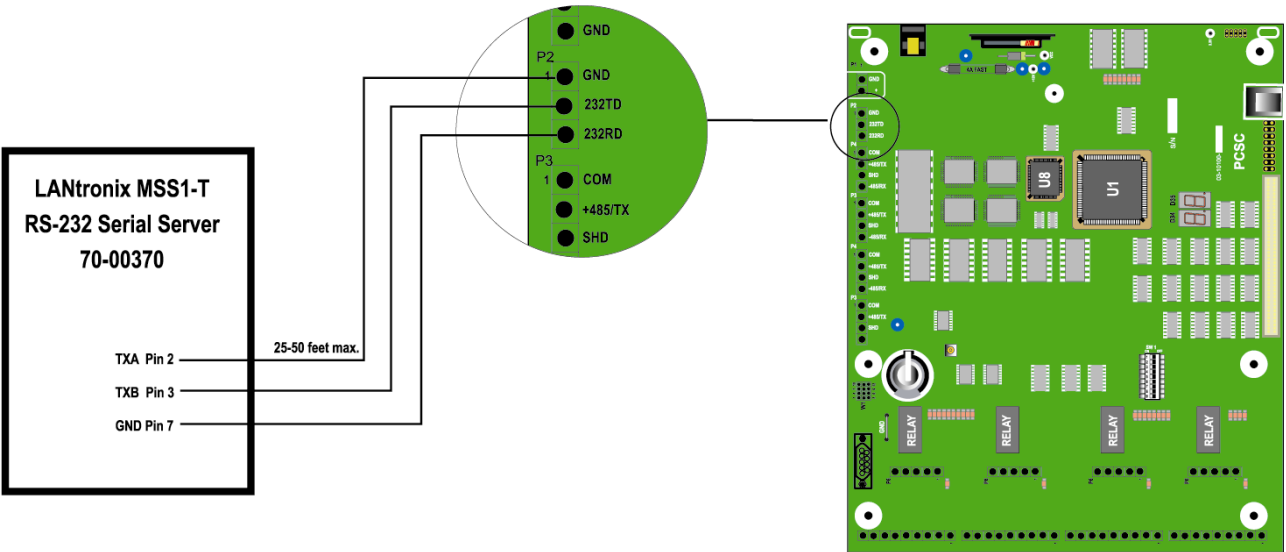
## 8.5 IQ Systems Upgrades and Capacities

Model	Readers	Supervised Reader Detect	Door Relay Outputs	Auxiliary Relay Outputs	External Shunt/Local Alarm Transistor Outputs	Auxiliary Transistor Outputs	Supervised Door Sense Inputs	Supervised Egress Sense Inputs	Unsupervised Egress Sense Inputs	Supervised Auxiliary Sense Inputs	Unsupervised Tamper Sense Inputs	Unsupervised Auxiliary Sense Inputs
IQ200	2	2	2	0	2	2	2	2	0	5	1	0
IQ200/OUT	2	2	2	16	2	2	2	2	0	5	1	16
IQ200/ALM	2	2	2	0	2	2	2	2	0	5	1	16
IQ200/SAM	2	2	2	0	2	2	2	2	0	5	1	0
IQ200/SAM2	2	2	2	0	2	2	2	2	0	5	1	0
IQ400	4	4	4	0	4	2	4	4	0	5	1	0
IQ400/OUT	4	4	4	16	4	2	4	4	0	5	1	16
IQ400/ALM	4	4	4	0	4	2	4	4	0	5	1	16
IQ400/SAM	4	4	4	0	4	2	4	4	0	13	1	0
IQ400/SAM2	4	4	4	0	4	2	4	4	0	21	1	0
IQ600	6	6	6	0	6	2	6	6	0	5	1	0
IQ600/OUT	6	6	6	16	6	2	6	6	0	5	1	16
IQ600/ALM	6	6	6	0	6	2	6	6	0	5	1	16
IQ600/SAM	6	6	6	0	6	2	6	6	0	5	1	0
IQ600/SAM2	6	6	6	0	6	2	6	6	0	5	1	0
IQ1000	10	10	10	0	10	2	10	10	0	5	1	0
IQ1000/OUT	10	10	10	16	10	2	10	10	0	5	1	16
IQ1000/ALM	10	10	10	0	10	2	10	10	0	5	1	16
IQ1000/SAM	10	10	10	0	10	2	10	10	0	5	1	0
IQ1000/SAM2	10	10	10	0	10	2	10	10	0	5	1	0
IQ1200	12	12	12	0	12	2	12	12	0	5	1	0
IQ800	8	8	8	0	8	2	8	8	0	5	1	0
IQ800/OUT	8	8	8	16	8	2	8	8	0	5	1	16
IQ800/ALM	8	8	8	0	8	2	8	8	0	5	1	16
IQ800/SAM	8	8	8	0	8	2	8	8	0	5	1	0
IQ800/SM2	8	8	8	0	8	2	8	8	0	5	1	0

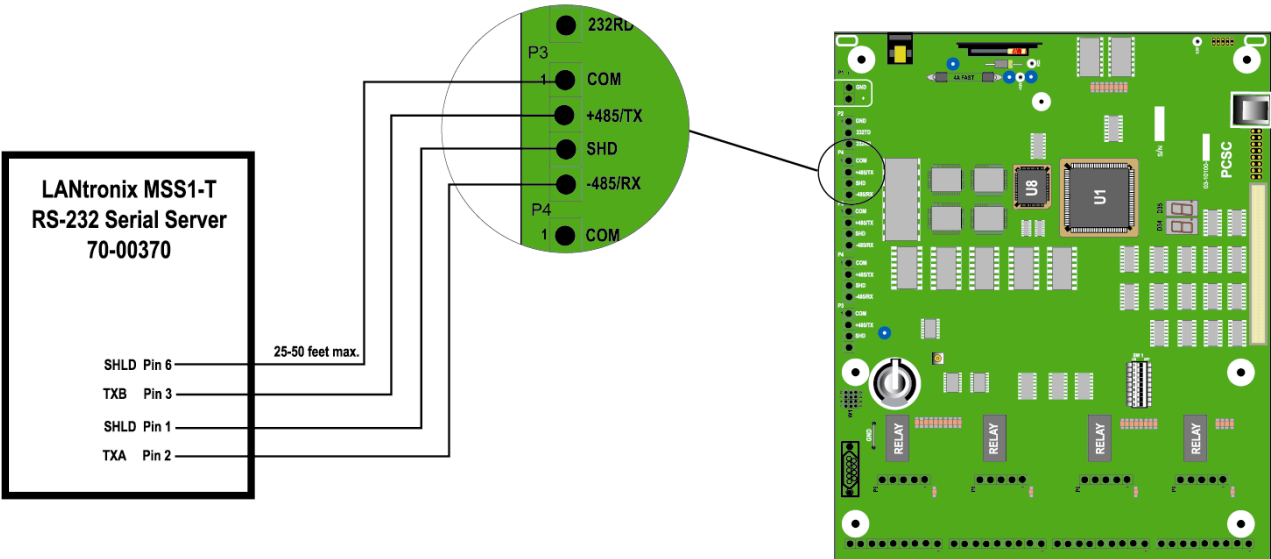
\*Form C Dry Contact- Relay comprised of normally open (N.O.), normally closed (N.C.) and common (COM) contacts which are available for connection. Contacts are rated at two amps, 12/24 VDC continuous power.

8.6 RS-232/485 Terminal Servers

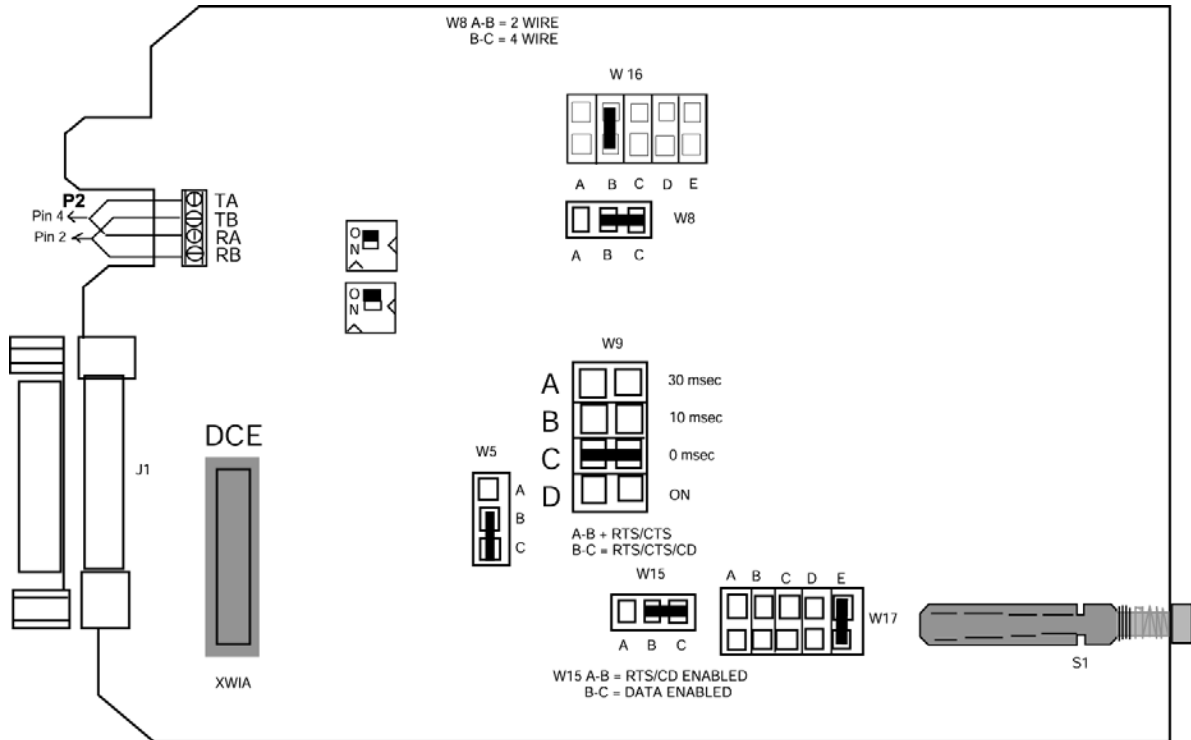
IQ-400 Controller to Micro Serial Terminal Server Wiring Diagram for RS-232



IQ-400 Controller to Micro Serial Terminal Server Wiring Diagram for RS-485



## 8.7 RS-232-485/422 Converters: Printed Circuit Board Layout



## 8.8 User Selectable Options

Underlined settings are for LiNC-NET User -Selectable Options.

An asterisk (\*) designates the factory preset jumper settings.

<b>XWIA</b>	<u>DCE*</u>	
<b>XWIB</b>	DTE	
<b>W8</b>	A-B	4-wire
	<u><b>B-C*</b></u>	2-wire
<b>W15</b>	A-B	<u>RTS/CD enabled</u>
	<u><b>B-C*</b></u>	Data enabled (Maximum speed is 64K)
<b>W5</b>	A-B	<u>RTS/CTS* delay (normal)</u>
	<u><b>B-C*</b></u>	RTS/CTS/CD delay (CTS inhibited if CD is present when RTS is raised.
<b>W9</b>		RTS/CTS delay (The time before the RS-485 driver is enabled and CTS is asserted after RTS is asserted. The RS-485 driver is always enabled.)
	A	30 msec
	B	10 msec
	<u><b>C*</b></u>	<u><b>0 msec</b></u>
	D	ON
<b>W17</b>		When W15 is in the B-C (Data Enabled) position, this is the time the RS-485 driver remains enabled after a low-to-high transition on the DATA line to prevent disabling the driver in the middle of a character.
	A	70 msec
	B	7 msec
	C	2 msec
	D	0.7 msec
	<u><b>E*</b></u>	<u><b>0.15 msec</b></u>
<b>W16</b>		Turnaround delay (When W8 is in the B-C [2 wire] position, this is the time after the driver is disabled and <i>before</i> the receiver is enabled.)
	A	0 msec
	<u><b>B*</b></u>	<u><b>msec</b></u>
	<u><b>C*</b></u>	<u><b>msec</b></u>
	D	5 msec
	E	35 msec
<b>NOTE</b> If the converter is configured Data Enabled (W15, position B-C) and 2-wire (W8, position B-C), then delays from W17 and W16 are cumulative.		
<b>S1</b>	<u><b>OU</b></u>	<u><b>Normal</b></u>
	<u><b>T*</b></u>	
	IN	Loopback
<b>S2</b>	<u><b>OF</b></u>	<u><b>RS-485 Receiver Unterminated</b></u>
	<u><b>F*</b></u>	
	ON	RS-485 Terminated
<b>S3</b>	<u><b>OFF*</b></u>	<u><b>Line Bias Off</b></u>
	ON	Line Bias On (The Carrier Detect light will come on. Default is +5 volts.)
<b>TB1</b>		4-wire terminal block
<b>W19</b>		(Open) - Not jumpered.

## 8.9 Point Definitions

### 8.9.1 Sense Inputs

#### 8.9.1.1 IQ-400 Point Definitions – Sense Inputs

##### **IQ (P/N 03-10111-201)**

<u>Designation</u>	<u>Location</u>
S1	P8, Reader a
S2	P9, Reader b
S3	P10, Reader c
S4	P11, Reader d

##### **IQ (P/N 03-10111-201)**

S13 through S23  
are located on  
the IQ-400.

<u>Designation</u>	<u>Location</u>
S13	P18, pin 1, 2
S14	P19, pin 1, 2
S16	P12, pin 3, 4
S17	P12, pin 1, 2
S18	P13, pin 3, 4
S19	P13, pin 1, 2
S20	P14, pin 3, 4
S21	P14, pin 1, 2
S22	P15, pin 3, 4
S23	P15, pin 1, 2

##### **IQ (P/N 03-10111-201)**

S120 through  
S123 are  
located on the  
IQ-400

<u>Designation</u>	<u>Location</u>
S120	P5, pin 1, 2
S121	P5, pin 3, 4
S122	P6, pin 1, 2
S123	P6, pin 3, 4

##### **IQ SAM/1<sup>st</sup> SAM Board (P/N 03-10056-201)**

1<sup>st</sup> SAM PCB is  
used in:  
IQ-400/SAM  
IQ-400/SAM2  
IQ-800/SAM  
IQ-400/SAM2

<u>Designation</u>	<u>Location</u>
S40	P2, pin 1, 2
S41	P2, pin 3, 4
S42	P3, pin 1, 2
S43	P3, pin 3, 4
S44	P4, pin 1, 2
S45	P4, pin 3, 4
S46	P5, pin 1, 2
S47	P5, pin 3, 4

##### **IQ SAM/2<sup>nd</sup> SAM Board (P/N 03-10056-201)**

2<sup>nd</sup> SAM PCB is  
used in:

IQ-800/SAM  
IQ-800/SAM2

<u>Designation</u>	<u>Location</u>
S48	P2, pin 1, 2
S49	P2, pin 3, 4
S50	P3, pin 1, 2
S51	P3, pin 3, 4
S52	P4, pin 1, 2
S53	P4, pin 3, 4
S54	P5, pin 1, 2
S55	P5, pin 3, 4

##### **IQ/OUT/ALM\***

<u>Designation</u>	<u>Location</u>
S56	P1, pin 7, 8
S57	P1, pin 5, 6
S58	P1, pin 3, 4
S59	P1, pin 1, 2
S60	P2, pin 7, 8
S61	P2, pin 5, 6
S62	P2, pin 3, 4
S63	P2, pin 1, 2
S64	P3, pin 7, 8
S65	P3, pin 5, 6
S66	P3, pin 3, 4
S67	P3, pin 1, 2
S68	P4, pin 7, 8
S69	P4, pin 5, 6
S70	P4, pin 3, 4
S71	P4, pin 1, 2

\*Sense inputs 56 through 71 are located on the  
ALM PCB (P/N 03-10032-301) in an IQ/ALM.

The same sense inputs are also used in the  
OUTPUT PCB (P/N 03-10032-201F) in an  
IQ/OUT.

### 8.9.1.2 IQ-800 Series Point Definitions – Sense Inputs

#### 4-Reader Cluster Board (P/N 03-10102-301)

S5 through S8 are located on the 4-Reader Expansion PCB.

Designation	Location
S5	P10, Reader e
S6	P16, Reader f
S7	P12, Reader g
S8	P14, Reader h

#### 4-Reader Expansion Board (P/N 03-10102-301)

S24 through S31 are located on the 4-Reader Expansion PCB.

Designation	Location
S24	P11, pin 3, 4
S25	P11, pin 1, 2
S26	P17, pin 3, 4
S27	P17, pin 1, 2
S28	P13, pin 3, 4
S29	P13, pin 1, 2
S30	P15, pin 3, 4
S31	P15, pin 1, 2

#### IQ SAM/1<sup>st</sup> SAM Board (P/N 03-10056-201)

1st SAM PCB is used in:  
IQ-400 SAM  
IQ-400 SAM2  
IQ-800 SAM  
IQ-800 SAM2

Designation	Location
S40	P2, pin 1, 2,
S41	P2, pin 3, 4
S42	P3, pin 1, 2
S43	P3, pin 3, 4
S44	P4, pin 1, 2
S45	P4, pin 3, 4
S46	P5, pin 1, 2
S47	P5, pin 3, 4

#### IQ SAM/2<sup>nd</sup> SAM Board (P/N 03-10056-201)

2nd SAM PCB is used in:  
IQ-400 SAM2  
IQ-800 SAM2

Designation	Location
S48	P2, pin 1, 2,
S49	P2, pin 3, 4
S50	P3, pin 1, 2
S51	P3, pin 3, 4
S52	P4, pin 1, 2
S53	P4, pin 3, 4
S54	P5, pin 1, 2
S55	P5, pin 3, 4

#### IQ/OUT/ALM\*

Designation	Location
S56	P1, pin 7, 8
S57	P1, pin 5, 6
S58	P1, pin 3, 4
S59	P1, pin 1, 2
S60	P2, pin 7, 8
S61	P2, pin 5, 6
S62	P2, pin 3, 4
S63	P2, pin 1, 2
S64	P3, pin 7, 8
S65	P3, pin 5, 6
S66	P3, pin 3, 4
S67	P3, pin 1, 2
S68	P4, pin 7, 8
S69	P4, pin 5, 6
S70	P4, pin 3, 4
S71	P4, pin 1, 2

\*Sense inputs 56 through 71 are located on the ALM PCB (P/N 03-10032-301) in an IQ/ALM.

The same sense inputs are also used in the OUTPUT PCB (P/N 03-10032-201) in an IQ/OUT.

### 8.9.1.3 IQ-1200 Series Point Definitions – Sense Inputs

#### 8-Reader Expansion Board (P/N 03-10102-201E)

<u>Designation</u>	<u>Location</u>
S5	P2, Reader e
S6	P8, Reader f
S7	P4, Reader g
S8	P6, Reader h
S9	P10, Reader i
S10	P16, Reader j
S11	P12, Reader k
S12	P14, Reader l

#### 8-Reader Expansion Board (P/N 03-10102-201E)

<u>Designation</u>	<u>Location</u>
S24	P3, pin 3, 4
S25	P3, pin 1, 2
S26	P9, pin 3, 4
S27	P9, pin 1, 2
S28	P5, pin 3, 4
S29	P5, pin 1, 2
S30	P7, pin 3, 4
S31	P7, pin 1, 2
S32	P11, pin 3, 4
S33	P11, pin 1, 2
S34	P17, pin 3, 4
S35	P17, pin 1, 2
S36	P13, pin 3, 4
S37	P13, pin 1, 2
S38	P15, pin 3, 4
S39	P15, pin 1, 2

S24 through S39  
are located on  
the 8-Reader  
Expansion  
Board.

## 8.9.2 Outputs

### 8.9.2.1 IQ-400 Series Point Definitions – Outputs

#### IQ-400 (P/N: 03-10111-201)

IQ Form C Relay	Connector	Common	Normally Open	Normally Closed		
01	P12	Pin 7	Pin 6	Pin 5		
02	P13	Pin 7	Pin 6	Pin 5		
03	P14	Pin 7	Pin 6	Pin 5		
04	P15	Pin 7	Pin 6	Pin 5		
IQ Open Collector	Connector				+12VDC Output	Open Collector Output
13	P12				Pin 9	Pin 8
14	P13				Pin 9	Pin 8
15	P14				Pin 9	Pin 8
16	P15				Pin 9	Pin 8

#### IQ-400/OUT (P/N: 03-1032-201F)

IQ OUT/ALM Form C Relay	Connector	Common	Normally Closed	Connector	Common	Normally Open
25	P5	Pin 8	Pin 7	P9	Pin 8	Pin 7
26	P5	Pin 6	Pin 5	P9	Pin 6	Pin 5
27	P5	Pin 4	Pin 3	P9	Pin 4	Pin 3
28	P5	Pin 2	Pin 1	P9	Pin 2	Pin 1
29	P6	Pin 8	Pin 7	P10	Pin 8	Pin 7
30	P6	Pin 6	Pin 5	P10	Pin 6	Pin 5
31	P6	Pin 4	Pin 3	P10	Pin 4	Pin 3
32	P6	Pin 2	Pin 1	P10	Pin 2	Pin 1
33	P7	Pin 8	Pin 7	P11	Pin 8	Pin 7
34	P7	Pin 6	Pin 5	P11	Pin 6	Pin 5
35	P7	Pin 4	Pin 3	P11	Pin 4	Pin 3
36	P7	Pin 2	Pin 1	P11	Pin 2	Pin 1
37	P8	Pin 8	Pin 7	P12	Pin 8	Pin 7
38	P8	Pin 6	Pin 5	P12	Pin 6	Pin 5
39	P8					



### 8.9.2.2 IQ-800 Series Point Definitions – Outputs

#### 4-Reader Expansion PCB (P/N: 03-10102-301E)

<b>IQ Form C Relay</b>	<b>Connector</b>	<b>Common</b>	<b>Normally Open</b>	<b>Normally Closed</b>		
05	P11	Pin 7	Pin 6	Pin 5		
06	P17	Pin 7	Pin 6	Pin 5		
07	P13	Pin 7	Pin 6	Pin 5		
08	P15	Pin 7	Pin 6	Pin 5		
<b>IQ Open Collector</b>	<b>Connector</b>				<b>+12VDC Output</b>	<b>Open Collector Output</b>
17	P11				Pin 9	Pin 8
18	P17				Pin 9	Pin 8
19	P13				Pin 9	Pin 8
20	P15				Pin 9	Pin 8

#### IQ-800/OUT (P/N: 03-10032-201F)

<b>IQ OUT/ALM Form C Relay</b>	<b>Connector</b>	<b>Common</b>	<b>Normally Closed</b>	<b>Connector</b>	<b>Common</b>	<b>Normally Open</b>
25	P5	Pin 8	Pin 7	P9	Pin 8	Pin 7
26	P5	Pin 6	Pin 5	P9	Pin 6	Pin 5
27	P5	Pin 4	Pin 3	P9	Pin 4	Pin 3
28	P5	Pin 2	Pin 1	P9	Pin 2	Pin 1
29	P6	Pin 8	Pin 7	P10	Pin 8	Pin 7
30	P6	Pin 6	Pin 5	P10	Pin 6	Pin 5
31	P6	Pin 4	Pin 3	P10	Pin 4	Pin 3
32	P6	Pin 2	Pin 1	P10	Pin 2	Pin 1
33	P7	Pin 8	Pin 7	P11	Pin 8	Pin 7
34	P7	Pin 6	Pin 5	P11	Pin 6	Pin 5
35	P7	Pin 4	Pin 3	P11	Pin 4	Pin 3
36	P7	Pin 2	Pin 1	P11	Pin 2	Pin 1
37	P8	Pin 8	Pin 7	P12	Pin 8	Pin 7
38	P8	Pin 6	Pin 5	P12	Pin 6	Pin 5
39	P8	Pin 4	Pin 3	P12	Pin 4	Pin 3
40	P8	Pin 2	Pin 1	P12	Pin 2	Pin 1

### 8.9.2.3 IQ-1200 Series Point Definitions – Outputs

#### 8-Reader Expansion PCB (P/N: 03-10102-201E)

IQ Form C Relay	Connector	Common	Normally Open	Normally Closed		
05	P3	Pin 7	Pin 6	Pin 5		
06	P9	Pin 7	Pin 6	Pin 5		
07	P5	Pin 7	Pin 6	Pin 5		
08	P7	Pin 7	Pin 6	Pin 5		
09	P11	Pin 7	Pin 6	Pin 5		
10	P17	Pin 7	Pin 6	Pin 5		
11	P13	Pin 7	Pin 6	Pin 5		
12	P15	Pin 7	Pin 6	Pin 5		
IQ Open Collector	Connector				+12VDC Output	Open Collector Output
17	P3				Pin 9	Pin 8
18	P9				Pin 9	Pin 8
19	P5				Pin 9	Pin 8
20	P7				Pin 9	Pin 8
21	P11				Pin 9	Pin 8
22	P17				Pin 9	Pin 8
23	P13				Pin 9	Pin 8
24	P15				Pin 9	Pin 8

## 9.0 Appendix A - IQ-400 Specifications

### 9.1 IQ-400 Features

**2 Auxiliary Powered Outputs (cc# 89, 90)**

**1 Unsupervised Tamper Sense Input (S13)**

**4 Reader Ports:**

-5-wire Wiegand interface

-4-wire PCSC Proprietary

**4 Form C Door Strike Outputs**

(2 Amps @ 24 VDC)

(cc# 1, 2, 3 and 4) 2 Amps continuous power @12/24 VDC

**4 Door Left Open Outputs (or 4 External Shunt Options) (cc# 13, 14, 15 and 16)**

**4 Supervised Door Senses (S17, 19, 21, 23)**

**5 User Defined Sense Inputs (S14, S120, S121, S122, S123)**

**4 Request to Exit Inputs (S16, 18, 20, 21)**

**Battery Backed Clock Calendar**

**Flash RAM 128K standard (up to 256K)**

**Battery Backed RAM 256K standard (up to 512K)**

**LEDs for:**

Power, alarm, on-line diagnostics

Reader Data [Error code, door status]

Tamper detect (S13)

**Type of Communications:**

RS-232 and RS-485

Ethernet/onboard

Autodial MODEM or (optional On-Board Modem)

#### 9.1.1 System Capacities

**Cardholder Capacity:** 8,000 (20,000 w/Memory Expansion)

**Time Periods:** 32

**Holiday Time Periods:** 32

**Holiday List:** 366 Days (Leap Year)

**History Transactions:** 4,000 regardless of memory size

#### 9.1.2 Spare Parts- IQ-400 PCB

Part Number	Description	Designation
81-09009	3V Lithium Battery	BT1
78-01001	4A 250V 1/4 x 1/4, 3AG Fuse	F1
83-02082	5-pin Plug Connector	P8, P9, P10, P11
83-02083	2-pin Plug Connector	P1, P16, P17, P18, P19
83-02084	4-pin Plug Connector	P3, P4, P5, P6
83-02085	3-pin Plug Connector	P2
83-02086	9-pin Plug Connector	P12, P13, P14, P15
79-03022	DPST Relay	K1, K2, K3, K4
83-02007	Jump Connector	For W1 – W9

## 9.2 IQ 4-Reader Expansion Module (P/N: 03-10102-301E)

The IQ-400 4-reader system can be expanded to an 8-reader system by installing the 4-Reader Expansion Module. The circuit board (Part # 03-10102-10X) can be mounted below the circuit board in the larger enclosures available from PCSC. Once mounted, the circuit board is connected to the IQ-400 by installing a 50-pin ribbon expansion cable from P1 on the 4-reader module to J1 on the IQ-400.

The 4-Reader Expansion Module allows the user to connect up to 4 additional readers to the IQ-400. Each of the reader interfaces support either a PCSC proprietary reader (4-wire interface), or a Wiegand reader (5-wire interface). The Expansion Module also provides an additional 4 interfaces for each of the readers and the associated doors. These include the following:

- Multilevel door sense inputs (Supervised door sense inputs)
- Reader Present inputs (Reader connected/disconnected)
- Request to Exit inputs (Unsupervised egress inputs)
- Relay contacts for door control outputs (Form C dry contacts rated for 2.0 Amps @ 12/24VDC continuous power)
- Door shunt outputs (Open Collector output rated for +12 VDC @ 100mA)
- Door Shunt/Local Alarm

### 9.2.1 Power Supply

The 4-reader Expansion Module requires +5VDC for all logic. Relays, output drivers, etc. require a +12VDC supply. The +5VDC and +12VDC is provided to the module via the 50-pin expansion cable, which connects plug P1 of the 4-door cluster PCB (P/N 03-10102-301E) to plug J1 of the IQ-400 board, (P/N 03-10111-201).

### 9.2.2 Door Sense LEDs

4 LEDs located at D17, D18, D19, and D20 indicate the status of the Door circuits. Resistors must be installed at the door contacts, the switches in place, door closed (normal state), and the lines calibrated, in order for the supervised inputs to function. See Step 4 for installation and calibration procedure.

#### LED Status Chart (for IQ-400 firmware I4+07.010.02 series):

- Sense Input #25 LED is D17
- Sense Input #27 LED is D18
- Sense Input #29 LED is D19
- Sense Input #31 LED is D20

**NOTE** LEDs D21-D24 are not used in the IQ-800.

<b>OFF</b>	Circuit is in normal/secure state
<b>ON</b>	Circuit is in an alarm condition state
<b>Blinks once every 2 seconds</b>	Fault condition. Open circuit state
<b>Blinks 1 time/second</b>	Fault condition. Short circuit state
<b>Blinks 4 times/second</b>	Circuit is NOT calibrated and NOT in a functional state

## 9.3 IQ-800 Features (IQ-400 plus 4-Reader Expansion Module)

### 9.3.1 Two Auxiliary (Powered) Outputs (cc# 89, 90)

#### 8 Reader Ports:

(Wiegand electrical interface for PCSC and OEM card readers) (Readers a-h)

**8 Form C Door Strike Outputs** (2.0 amps @ 12/24 VDC continuous power)

**8 Door Left Open Outputs** (or 8 External Shunt Options)

**8 Supervised Door Senses** (17, 19, 21, 23, 25, 27, 29, 31)

**5 Supervised User-Defined (Auxiliary) Sense Inputs** (S14, S120, S121, S122, S123)

**8 Supervised Request to Exit Inputs** (16, 18, 20, 22, 24, 26, 28, 30)

**Battery Backed Clock Calendar**

**Flash RAM 128K standard** (up to 256K)

**Battery-Backed RAM 256K standard** (up to 512K)

**LEDs for:**

Power, alarm, on-line diagnostics Reader Data [Error code, Door Status]

**Unsupervised Tamper detect** (S13)

### 9.3.2 System Capacities

**Cardholder Capacity:** 8,000 (20,000 w/ Memory Expansion)

**Time Periods:** 32

**Holiday Time Periods:** 32

**Holiday List:** 366 Days (Leap Year)

**History Transactions:** 4,000 regardless of memory size

**Enclosure Dimensions:** 18"H x 11.5"W x 6"D (45.7cm x 29.2cm x 15.2cm)

**Weight:** 38 lbs. (17.3kg)

**Power:** 12VDC

**Draw:** 3 amp @ 12VDC

**Temperature:** 32°F to 115°F (0°C to 46°C)

**Communications:** RS485 standard  
RS232 standard  
External MODEM or (optional On-Board Modem)  
Ethernet optional

### 9.3.3 Spare Parts- 4-Reader Expansion Board (P/N: 03-10102-301E)

Part Number	Description	Designation
83-02082	5-pin Plug Connector	P10, P12, P14, P16
83-02086	9-pin Plug Connector	P11, P13, P15, P17
79-03022	DPST Relay	K5- K8
83-2007	Jump Connector	W1-W3, W5-W6, W11-W15

## 9.4 IQ 8-Reader Expansion Module (P/N: 03-10102-201E)

The IQ-400 4-reader system can be expanded to a 12-reader system by installing the 8-Reader Expansion Module. The 8-Reader Expansion board can be mounted below the IQ-400 in the larger enclosures available from PCSC. Once mounted, the 8-Reader Expansion board is connected to the IQ-400 by installing a 50-pin ribbon expansion cable from P1 on the 8-reader Expansion board to J1 on the IQ-400.

The 8-Reader expansion board allows the user to connect up to 8 additional readers to the IQ-400. Each of the reader interfaces support either a PCSC proprietary reader (4-wire interface), or a Wiegand reader (5-wire interface). The Expansion board also provides 8 additional interfaces for each of the readers and the associated doors. These include the following:

- Multilevel Door Sense Inputs (Supervised door sense inputs)
- Reader Present inputs (Reader connected/disconnected)
- Request to Exit inputs (Supervised Egress Inputs)
- Relay contacts for door control outputs (Form C dry contacts rated for 2.0 Amps @ 12/24VDC continuous power)
- Door shunt/Local Alarm/Outputs (Open Collector output rated for +12 VDC @ 100mA)

### 9.4.1 Power Supply

The 8-reader Expansion Module requires +5VDC for all logic. Relays, output drivers, etc. require a +12VDC supply. The +5VDC and +12VDC is provided to the module via the 50-pin expansion cable, which connects plug P1 of the 8-door cluster PCB (P/N 03-10102-201E) to plug J1 of the IQ-400 board, (P/N 03-10111-201). The Variable Ambient Test will be for Indoor, 0 to 49 Degrees C, and 85% Relative Humidity @ 30 Degrees C.

### 9.4.2 Door Sense LEDs

8 LEDs located at D17, D18, D19, D20, D21, D22, D23, and D24 indicate the status of the Door circuits. Resistors must be installed at the door contacts, the switches in place, door closed (normal state), and the lines calibrated, in order for the supervised inputs to function. See Section 2.2.5.1.2 [*Proper Point by Point Calibration*] of the LiNC-NET Administrator Guide (P/N: 38-10055-001) for calibration procedure.

#### LED Status Chart:

- Sense Input #25 LED is D17
- Sense Input #27 LED is D18
- Sense Input #29 LED is D19
- Sense Input #31 LED is D20
- Sense Input #33 LED is D21
- Sense Input #35 LED is D22
- Sense Input #37 LED is D23
- Sense Input #39 LED is D24

**OFF**

**ON**

**Blinks once every 2 seconds**

**Blinks 1 time/second**

**Blinks 4 times/second**

Circuit is in normal/secure state

Circuit is in an alarm condition state

Fault condition. Open circuit state

Fault condition. Short circuit state

Circuit is NOT calibrated and NOT in a functional state

## 9.5 IQ-1200 Features (IQ-400 plus 8-Reader Expansion Module)

### 2 Auxiliary (Powered) Outputs (cc# 89, 90)

#### 12 Reader Ports:

(Wiegand electrical interface for PCSC and OEM card readers) (readers a-l)

#### 12 Form C Door Strike Outputs (2.0 amps @ 12/24 VDC continuous power)

#### 12 Door Left Open Outputs (or 12 External Shunt Options)

#### 12 Supervised Door Senses (17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39)

#### 5 Supervised User-Defined (Auxiliary) Sense Inputs (S14, S120, S121, S122, S123)

#### 12 Supervised Request to Exit Inputs (16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38)

#### Battery Backed Clock Calendar

#### Flash RAM 128K standard (up to 256K)

#### Battery-Backed RAM 256K standard (up to 512K)

LEDs for: Power, alarm, on-line diagnostics Reader Data [Error code, door status]

#### Unsupervised Tamper detect (S13)

### 9.5.1 System Capacities

<b>Cardholder Capacity:</b>	8,000 (20,000 w/ Memory Expansion)
<b>Time Periods:</b>	32
<b>Holiday Time Periods:</b>	32
<b>Holiday List:</b>	366 Days (Leap Year)
<b>History Transactions:</b>	4,000 regardless of memory size
<b>Enclosure Dimensions:</b>	18"H x 11.5"W x 6"D (45.7cm x 29.2cm x 15.2cm)
<b>Weight:</b>	38 lbs. (17.3kg)
<b>Power:</b>	12VDC
<b>Draw:</b>	3 amp @ 12VDC
<b>Temperature:</b>	32°F to 115°F (0°C to 46°C)
<b>Communications:</b>	RS485 standard RS232 standard External MODEM or (optional On-Board Modem) Ethernet optional

### 9.5.2 Spare Parts- 8-Reader Expansion Board (P/N: 03-10102-201F)

Part Number	Description	Designation
83-02082	5-pin Plug Connector	P2, P4, P6, P8, P10, P12, P14, P16
83-02086	9-pin Plug Connector	P3, P5, P7, P9, P11, P13, P15, P17
79-03022	DPST Relay	K1- K8
83-2007	Jump Connector	W1-W15

## 9.6 OUT PCB Features (P/N: 03-10032-201F)

**16 Form C Relay Dry Contact Outputs** (2.0 amps @ 12/24 VDC continuous power)

**16 Unsupervised Sense Inputs** (Alarm points 56-71)

**LEDs for:** status, +5Vdc, +12VDC, watchdog timer (wdt)

### 9.6.1 System Capacities

**Enclosure Dimensions:** 18"H x 11.5"W x 6"D (45.7cm x 29.2cm x 15.2cm)

**Weight:** 38 lbs. (17.3kg)

**Temperature:** 32°F to 115°F (0°C to 46°C)

**Communications:** 50-pin Ribbon Cable

### 9.6.2 Electrical Ratings

**Draw:** 500 mA @ 12 VDC

**Relay Contacts** 2A @ 24 VDC

### 9.6.3 Spare Parts- OUT PCB

Part Number	Description	Designation
83-02083	2-pin Plug Connector	P13 (Pins 5-6)
83-02084	4-pin Plug Connector	P1- P12 (two connectors per plug), P13 (Pins 1-4)
79-03022	DPST Relay	K1- K16
83-2007	Jump Connector	P14



## 9.7 ALM PCB Features (P/N:P 03-10032-301)

**16 Unsupervised Sense Inputs** (Alarm points 56-71)

### 9.7.1 System Capacities

**Enclosure Dimensions:** 18"H x 11.5"W x 6"D (45.7cm x 29.2cm x 15.2cm)  
**Weight:** 38 lbs. (17.3kg)  
**Temperature:** 32°F to 115°F (0°C to 46°C)  
**Communications:** 50-pin Ribbon Cable

### 9.7.2 Electrical Ratings

**Draw:** 100mA @ 12 VDC  
**Relay Contacts** 2 A @ 24 VDC

### 9.7.3 Spare Parts- ALM PCB (P/N: 03-10032-301)

Part Number	Description	Designation
83-02083	2-pin Plug Connector	P13 (Pins 5-6)
83-02084	4-pin Plug Connector	P1- P4 (two connectors per plug), P13 (Pins 1-4)
83-2007	Jump Connector	P14

## 9.8 Cable Requirements and Maximum Lengths

### 9.8.1 Communication-

Type of Technology	Type of 22awg Stranded Wire	Maximum Distance	Max. Distance w/PIN Pad (BP-250)
<i><b>IQ-400</b></i>	<i><b>2-pair, twisted, w/ overall shield</b></i>	<i><b>To the last IQ-400 (4,000 ft (1,219 m))</b></i>	

### 9.8.2 Readers

#### 4-wire PCSC-

Type of Technology	Models	Type of 22awg Stranded Wire	Maximum Distance	Max. Distance w/PIN Pad (BP-250)
<i><b>ProTech</b></i>	<i><b>BR-350</b></i>	<i><b>2-pair, twisted, w/ overall shield</b></i>	<i><b>2000 ft. (667 m)</b></i>	<i><b>2000 ft. (667 m)</b></i>

#### 5-wire Wiegand-

Type of Technology	Models	Type of 22awg Stranded Wire	Maximum Distance	Max. Distance w/PIN Pad (Bp-270)
<i><b>ProTech</b></i>	<i><b>BR-370</b></i>	<i><b>3-pair, twisted, w/ overall shield</b></i>	<i><b>500 ft. (192 m)</b></i>	<i><b>500 ft. (192 m)</b></i>
<i><b>Proximity</b></i>	<i><b>All models</b></i>	<i><b>3-pair, twisted, w/ overall shield</b></i>	<i><b>500 ft. (192 m)</b></i>	<i><b>500 ft. (192 m)</b></i>
<i><b>Biometric</b></i>	<i><b>All models</b></i>	<i><b>3-pair, twisted, w/ overall shield</b></i>	<i><b>500 ft. (192 m)</b></i>	<i><b>500 ft (192 m)</b></i>
<i><b>Bar Code</b></i>	<i><b>All models</b></i>	<i><b>3-pair, twisted, w/ overall shield</b></i>	<i><b>500 ft. (192 m)</b></i>	<i><b>500 ft (192 m)</b></i>
<i><b>Vehicle ID</b></i>	<i><b>VR-670</b></i>	<i><b>3-pair, twisted, w/ overall shield</b></i>	<i><b>500 ft. (192 m)</b></i>	<i><b>500 ft (192 m)</b></i>

2-pair twisted and shielded cable recommended brands are:

**Belden 8728    Olympic 3030    Alpha 2404 or 2212**

3-pair twisted and shielded cable recommended brands are:

**Belden 8777    Alpha 6010C    WPW D431**

**NOTE** All data communications cables must reside in a separate electrical conduit. Absolutely NO high voltage or AC power cables allowed within data conduits.

## 9.9 Tool Requirements

### Cable Connection Tool

Inserting the cable to the AMP connectors from the PCSC readers must be performed with either an AMP Insertion Handle (P/N 88-08003) w/ an AMP Head (P/N 88-08005) or an AMP hand tool (P/N 88-08006) for MTA connectors. Any other tool may cause improper connection or damage to the system. On the IQ-400 circuit board, a standard screwdriver is required for securing cabling connections.

### Reader Locking Tool

As a security measure, some readers are equipped with a security bolt. This bolt requires a special driver (P/N 88-08002) to secure each reader and PIN pad.

## 9.10 Controller Specifications

### Microprocessor

The IQ-400 Controller is based on a 80C188EB microprocessor, operating at 16 MHz. The 80C188EB is a 16-bit processor (internal operation) with an eight-bit data bus. A 20-bit address bus provides a 1M Byte addressing range. Other features include three internal 16-bit timers, interrupt controller (8529 equivalent), multiple programmable chip select decoders with programmable wait states, and two serial communication channels.

### LEDs and Dipswitches

30 discrete LEDs are provided which the microprocessor software can individually control. Eight general-purpose switches are provided for use by the microprocessor software, and are utilized for mode control, configuration setting, ID selection, etc. In addition, a Power ON LED and four "Reader Active" LEDs are provided.

### Two Seven-Segment LED Display

Error codes are displayed in Hexadecimal format. Refer to the error code section for listing of codes and their meanings.

### Real Time Clock

A real time clock (DS1302) with battery backup is provided for time of day information.

## Serial Communication

**Two serial communication ports are provided by the IQ-400 controller.**

- RS-485: Four wire (twisted pair) interface which is optically isolated from the controller.  
  
-Provision for installing a termination resistor is provided.
- RS-232: At P7 (RS232 DB9 – Real Time Printer Port). At P2 (RS232 Direct Connect) – standard RS232 interface. Jumper W6 adds/removes an onboard 120Ω End-of-Line Termination Resistor.

## Power Supply

The IQ-400 controller requires +5VDC *for all logic*. Relays, output drivers, etc. require a +12VDC supply. An on-board dc-dc converter accepts an external voltage source of 10-26VDC, and converts this unregulated source to the required +5VDC. For an input voltage range of 10-15 volts, the “+12VDC” converts this voltage source to the required +12VDC. For more information, please refer to the ESD power supply installation manual.

## Battery Back-up Requirements

A 7 AH battery is recommended as a back-up to the power supply, because it is the largest battery that will fit in the enclosure. The battery should be connected to the power supply charger in accordance with the manufacturer's instructions. Refer to ESD SPS-3.6M2E, or SPS-6.5M4 Power Supply installation instructions for determining battery backup size.

## Factory Settings

At the factory the IQ-400 is set as IQ-400 #1, communications as direct connect (RS232/RS485) @ 9600 baud, with 120 Ohm resistor termination disabled (W6 jumper set at 1-2).

## 9.11 Four-Reader Expansion Board- Active LEDs (P/N: 03-10102-301E)

4 LEDs located at D61, D62, D67, D68 indicate the status of the Reader circuits. When the LED blinks momentarily after a card swipe, the system is processing the card data. The LED is normally off.

### Reader LED Status:

- Reader E LED is D61
- Reader F LED is D62
- Reader G LED is D67
- Reader H LED is D68

### 9.11.1 Jumpers

Reader type is selected by the use of jumpers located in between the reader ports at W5 and W11-W14. Refer to each diagram of reader-types on Section 5.0 [*Reader Connections*] for the proper setting of these jumpers. Four other jumpers, located at W1, W2, W3, W6 and W15, designate chip selection, and are set at the factory. They should not be changed unless directed by technical support.

The setting of the four jumpers at W5 (**4W** or **5W**) determines how the jumpers next to each reader port is set. Also, when using a 5-wire, 12VDC reader, you can control the voltage at PIN 1, by moving the leftmost jumpers at W5 in conjunction with the reader port jumper setting (see Section 9.11.2 – next page).

### 9.11.2 Four-Reader Expansion Board (P/N: 03-10102-301E) - Jumper Selections

There are five jumper units located on the 4-Reader Expansion PCB circuit board. The settings are shown below.

- W1 at Pins 2 and 3 = PCB addressed to 30h (LO Address)
- W1 at Pins 1 and 2 = PCB addressed to 50h (HI Address – Default Settings)
- W2 and W3 at pins 1 and 2 = A/D is max 158 type
- W2 and W3 at pins 2 and 3 = A/D is max 7828 type
- W4 NOT USED ON 4-READER EXPANSION PCB

#### PIN Designation Chart

12	9	6	3
11	8	5	2
10	7	4	1

← **W5**

- W5 (for Readers **e-h**)
  - At pins 1 and 2, 4 and 5, 7 and 8, 10 and 11= Wiegand 5-Wire 5 volt card readers
  - At pins 2 and 3, 4 and 5, 7 and 8, 10 and 11= Wiegand 5-Wire 12 volt card readers
  - At pins 2 and 3, 5 and 6, 8 and 9, 11 and 12= PCSC 4-Wire 12 volt card readers
- W6 – Reader T/O
  - At pins 1 and 2 = 32 ms (PCSC Factory Set. Do not modify)
  - At pins 2 and 3 = 64 ms
- W11-W14 Reader Data Format
  - At pins 1 and 2 = Wiegand 5-wire (Data 1's and Data 0's) format
  - At pins 2 and 3= PCSC 4-wire (proprietary) format
- SW1 Switch Settings (to configure PCB for doors 5-8)
  - Switches 2 = OFF
  - Switches 1,3,4,6,7,8 = ON = 4 Reader PCB
  - Switch 5 = ON to enable Supervision Option of ALL Egress Sense Inputs (#24, 26, 28, and 30).
  - Switch 5 = OFF to disable Supervision of ALL Egress Sense Sense Inputs (#24, 26, 28, and 30).

**NOTE** Supervised Egress Option requires i4+07.010.02 series (or newer) IQ-400 firmware.

## 9.12 Eight-Reader Expansion Board (P/N: 03-10102-201E) - Active LEDs

Eight LEDs located at D49, D50, D55, D56, D61, D62, D67, D68 indicate the status of the Reader circuits. When the LED blinks momentarily after a card swipe, the system is processing the card data. The LED is normally off.

### Reader LED Status:

- Reader E LED is D49
- Reader F LED is D50
- Reader G LED is D55
- Reader H LED is D56
- Reader I LED is D61
- Reader J LED is D62
- Reader K LED is D67
- Reader L LED is D68

### 9.12.1 Jumpers

Reader type is selected by the use of jumpers located in between the reader ports at W4-W5 and W7-W14. Refer to each diagram of reader-types in Section 5 [*Reader Connections*] for the proper setting of these jumpers. Four other jumpers, located at W1, W2, W3, W6, and W15 designate chip selection, and are set at the factory. They should not be changed unless directed by technical support.

The setting of the jumpers at W4 and W5 (4W or 5W) determines how the jumpers next to each reader port is set. Also, when using a 5-wire, 12VDC reader, you can control the voltage at PIN 1, by moving the #3 jumpers at W4 and W5 in conjunction with the reader port jumper setting.

### 9.12.2 Eight-Reader Expansion Board (P/N: 03-10102-201E) - Jumper Selections

There are five jumper units located on the 8-Reader expansion PCB circuit board. The settings are shown below.

- W1 at Pins 2 and 3 = PCB addressed to 30h (LO Address)
- W1 at Pins 1 and 2 = PCB addressed to 50h (HI Address = Default Settings)
- W2 and W3 at pins 1 and 2 = A/D is max 158 type
- W2 and W3 at pins 2 and 3 = A/D is max 7828 type

#### PIN Designation Chart

12	9	6	3
11	8	5	2
10	7	4	1

**W4**  
← and  
**W5**

- W4 (for Readers **e-h**)
  - At pins 1 and 2, 4 and 5, 7 and 8, 10 and 11= Wiegand 5-Wire 5 volt card readers
  - At pins 2 and 3, 4 and 5, 7 and 8, 10 and 11= Wiegand 5-Wire 12 volt card readers
  - At pins 2 and 3, 5 and 6, 8 and 9, 11 and 12= PCSC 4-Wire 12 volt card readers
- W5 (for Readers **i-l**)
  - At pins 1 and 2, 4 and 5, 7 and 8, 10 and 11= Wiegand 5-Wire 5 volt card readers
  - At pins 2 and 3, 4 and 5, 7 and 8, 11 and 12= Wiegand 5-Wire 12 volt card readers
  - At pins 2 and 3, 5 and 6, 8 and 9, 11 and 12= PCSC 4-Wire 12 volt card readers
- W6 – Reader T/O
  - At pins 1 and 2 = 32 ms (PCSC Factory Set. Do not modify)
  - At pins 2 and 3 = 64 ms
- W7-W14 Reader Data Format
  - At pins 1 and 2 = Wiegand 5-wire (Data 1's and Data 0's) format
  - At pins 2 and 3= PCSC 4-wire (proprietary) format
- SW1 Switch Settings (to configure PCB for doors 5-12)
  - Switches 1, = OFF
  - Switches 2,3,4,5,6,7,8 = ON = 8 Reader PCB
  - Switch 5 = ON to enable Supervision Option of ALL Egress Sense Inputs (#24, 26, 28, 30, 32, 34, 36 and 38).
  - Switch 5 = OFF to disable Supervision of ALL Egress Sense Sense Inputs (#24, 26, 28, 30, 32, 34, 36 and 38).

**NOTE** Supervised Egress Option requires i4+07.010.02 series (or newer) IQ-400 firmware.



## 10.0 Appendix B – Configuring the IQ LAN for Version 0130 and above

### 10.1 Configuring the IQ LAN for Version 0130 and above

The following Configuration Instructions are for updating the IQ LAN (PCSC Part #: 03-10108-xxx) TCP/IP Configuration.

**IMPORTANT** If a user is configuring the IQ LAN card for a panel addressed 112-200, the software addressing of the panel must be configured BEFORE the IQ LAN configuration. For more information on software addressing, see Section 7.3.2 [*Software Addressing the IQ-400 Panel (Panels 112-200) Direct Connect*].

#### 10.1.1 Required Equipment:

1. PC or Notebook computer with a NIC
2. Web Browser (IE 5 or greater or Netscape 5 or greater.)
3. Ethernet Cross Over cable (example: Unicom E5DD-C414-WT-10TR) or attached to a hub
4. IQ-400 – 03-10111-xxx
5. IQ LAN – 03-10108-xxx

#### 10.1.2 Required Information:

1. LiNC-NET Host IP Address
2. IQ LAN IP Address – This is the unique IP Address for each IQ-400.
3. Panel Number – This is the IQ-400 panel number that the IQ LAN will be attached to. The panel number in the IQ LAN and the IQ-400 PCB must match.
4. Any Gateway information.

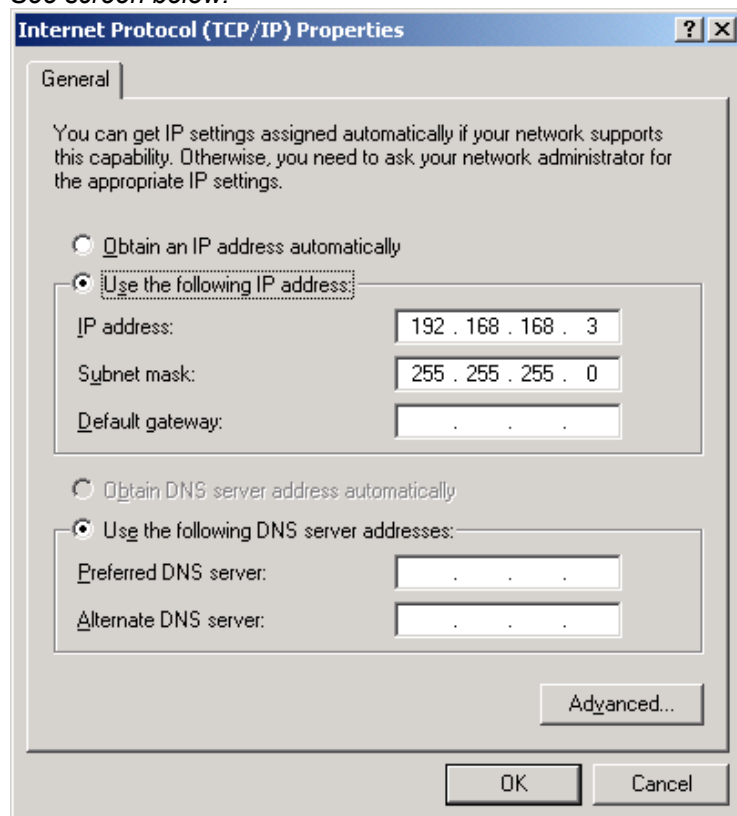
#### 10.1.3 Required firmware:

1. IQ-400 panel firmware: i4+07.010.02 or greater
2. IQ LAN version 0130 or greater

## 10.2 Configuring your Host Computer

1. Change host IP to be **192.168.168.3** in your computer's TCP/IP settings - This is the default Host IP address that the IQ LAN uses for setup:
  - a. Right mouse click on "My Network Places"
  - b. Select: **Properties**
  - c. Right mouse click on "Local Area Connection"
  - d. Highlight **Internet Protocol [TCP/IP]** and Press the **Properties** button.
  - e. You will need to verify that you have "Use the following IP address" selected.

See screen below.



- f. Enter **192.168.168.3** for the I.P. address
- g. Enter **255.255.255.0** for the Subnet mask
- h. Press the OK button
- i. Reboot the host computer if necessary. Depending on you system you may or may not have to do this.

### 10.3 Configuring IQ LAN VIA the TCP/IP Configurator

Use a Web Browser to configure and view the IQ LAN Configuration Information (IE 5 or greater, or Netscape 5 or greater). You will need to know the following information, IQ LAN IP address - **192.168.168.32**, Logon Name - **admin**, and Logon Password – **PYMTF**

The following steps are for connecting and changing the TCP/IP Configuration.

1. Connect your Cross Over cable from your host to the IQ LAN

**Note:** Once you have powered up the IQ-400 and have successfully made a connection to the Host, the IQ LAN R45 connectors Green LED will turn ON. You will also see the Yellow LED strobe when it is trying to communicate to the Host.

2. Open your Browser (e.g. Internet Explorer, Netscape, etc.)
3. Request the configuration form by entering the following in the "Address" field of the Browser. <http://192.168.168.32>
4. An html form will appear (figure on next page).

### 10.3.1 TCP/IP Configuration

PCSC Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://192.168.168.32/ Go

### TCP/IP Configuration

Logon Name (Up to 20 characters)

Logon Password (up to 10 characters)

Name	Value	Description
Panel Number	<input type="text" value="1"/>	Our Panel Number (0 to 256).
Host IP	<input type="text" value="0"/>	TCP/IP Host IP address (e.g. 192.165.120.112). If 0 than any host may connect to the IQET.
Our IP	<input type="text" value="192.168.168.32"/>	TCP/IP address for this device (e.g. 192.165.120.44).
Our MPM Port	<input type="text" value="3001"/>	0 to 9999 (e.g., 5500). This is the Our MPM Message TCP port.
Our Bulk Port	<input type="text" value="3002"/>	0 to 9999 (e.g., 5500). This is Our Bulk Message TCP port.
MASK IP	<input type="text" value="255.255.255.0"/>	Network MASK IP address (e.g., 255.255.255.0).
Gateway IP	<input type="text" value="0.0.0.0"/>	Gateway IP address (e.g., 192.165.120.2).
Response Timeout	<input type="text" value="5"/>	If response will not occur in 99999 ms (e.g., 47), delay response will be sent.
Connection Timeout	<input type="text" value="12000"/>	If no data is received from the host in 99999 ms (e.g., 20000), the IQET will be restarted.
PCSC Serial #	<input type="text"/>	Our device serial number.
Login Name	<input type="text"/>	Enter up to a 20 char. new Login Name if desired.
Password	<input type="password"/>	Enter up to a 10 char. new Login Password if desired.

Enter "Y" if messages are to be broadcast to port 1504

Version # 0124  
MAC Address 00 50 C2 0C F0 11

5. Change the appropriate values.
  - a. **Panel Number** – This must match the IQ-400 panel number.
  - b. **Host IP** – This is the LiNC-NET Host IP
  - c. **Our IP (IQ LAN IP)** - This is the IQ LAN address that LiNC-NET will use to communicate to the IQ-400 panel.
6. Enter the Logon Name – **admin**
7. Enter Logon Password – **PYMTF**
8. Click on the **Update** button. The following screen(s) will appear depending on the field you have changed.

PCSC Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://192.168.168.32/

### PC/M Configuration

Logon Name (Up to 20 characters)

Logon Password (up to 10 characters)

Name	Value	Description
Panel Number	<input type="text" value="2"/>	Our Panel Number (0 to 256).
Host IP	<input type="text" value="0"/>	TCP/IP Host IP address (e.g. 192.165.120.112). If 0 than any host may connect to the IQET.
Our IP	<input type="text" value="192.168.12.105"/>	TCP/IP address for this device (e.g. 192.165.120.44).
Our MPM Port	<input type="text" value="3001"/>	0 to 9999 (e.g., 5500). This is the Our MPM Message TCP port.
Our Bulk Port	<input type="text" value="3002"/>	
MASK IP	<input type="text" value="255.255.255.0"/>	Network MASK IP address (e.g., 255.255.255.0).
Gateway IP	<input type="text" value="0.0.0.0"/>	Gateway IP address (e.g., 192.165.120.2).
Response Timeout	<input type="text" value="5"/>	If response will not occur in 99999 ms (e.g., 47), delay response will be sent.
Connection Timeout	<input type="text" value="12000"/>	If no data is received from the host in 99999 ms (e.g., 20000), the IQET will be restarted.
PCSC Serial #	<input type="text"/>	Our device serial number.
Login Name	<input type="text"/>	Enter up to a 20 char. new Login Name if desired.
Password	<input type="password"/>	Enter up to a 10 char. new Login Password if desired.

Enter "Y" if messages are to be broadcast to port 1504

Version # 0124

MAC Address 00 50 C2 0C F0 11

PCSC Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://192.168.168.32/ Go

### TCP/IP Configuration

Logon Name (Up to 20 characters)

Logon Password (up to 10 characters)

Name	Value	Description
Panel Number	<input type="text" value="1"/>	Our Panel Number (0 to 256).
Host IP	<input type="text" value="192.168.168.1"/>	TCP/IP Host IP address (e.g. 192.165.120.112). If 0 than any host may connect to the IQET.
Our IP	<input type="text" value="192.168.168.32"/>	TCP/IP address for this device (e.g. 192.165.120.44).
Our MPM Port	<input type="text" value="3001"/>	0 to 9999 (e.g., 5500). This is the Our MPM Message TCP port.
Our Bulk Port	<input type="text" value="3002"/>	0 to 9999 (e.g., 5500). This is the Our Bulk Message TCP port.
MASK IP	<input type="text" value="255.255.255.0"/>	Network MASK IP address (e.g., 255.255.255.0).
Gateway IP	<input type="text" value="0.0.0.0"/>	Gateway IP address (e.g., 192.165.120.2).
Response Timeout	<input type="text" value="5"/>	If response will not occur in 99999 ms (e.g., 47), delay response will be sent.
Connection Timeout	<input type="text" value="12000"/>	If no data is received from the host in 99999 ms (e.g., 20000), the IQET will be restarted.
PCSC Serial #	<input type="text"/>	Our device serial number.
Login Name	<input type="text"/>	Enter up to a 20 char. new Login Name if desired.
Password	<input type="text"/>	Enter up to a 10 char. new Login Password if desired.

Enter "Y" if messages are to be broadcast to port 1504

Version # 0124

MAC Address 00 50 C2 0C F0 11

9. Close the Browser. You will have to change your Host IP to match the Host IP address just entered in the TIP/IP Configuration
10. Re-open the Browser. Call out the new IQ LAN address. You should now see all of the updated information.

**Note:** Once you have changed the Host IP in the IQ LAN, the host IP must match. If they do not then you will not be able to view the TCP/IP configuration information.

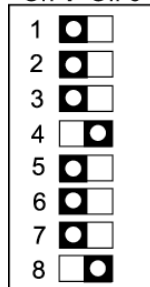
**Update IQ panel firmware** – Reference IQ-Series Downloader Installation Instructions Technical Bulletin (P/N: 39-10050-001).

## 10.4 Resetting the LAN (External Peripheral or Embedded) Ethernet Module

If the IQ LAN module is accidentally set to an incorrect (and/or unknown) IP address, it is possible to reset the IQ LAN module to original default IP address.

1. Power off the IQ-400 board.
2. Reset SW1 DIPswitch to (11101110)
3. Power up the board. The IQ-400 board LED Array will initially show 8.8., then 8.6., then 8.8. once again –board is now reset. The board reset has created the following default values:
  - a. Logon is “**admin**”
  - b. Password is “**PYMTF**”
  - c. “Host IP” is reset to ‘0’
  - d. “Our IP” is reset to **192.168.168.32**

**SW1**  
On 1 Off 0



Set # 1,2,3,5,  
6 and 7 to ON  
(left)

Set # 4 and 8  
to OFF (right)

4. Using your Internet browser, type in the IP address **192.168.168.32**. The IQ LAN module should be in default mode.

**NOTE** Your computer's TCP/IP has to be set to the 192.168.168.xxx for proper communication to the panel.

5. See page 104, steps 5 through 8, for proper resetting of the TCP/IP configuration for the board.

**NOTE** When reset, the LAN module will default to Panel 1 and the default address.

end/

**End of Manual  
PCSC, Inc.  
February 2004**